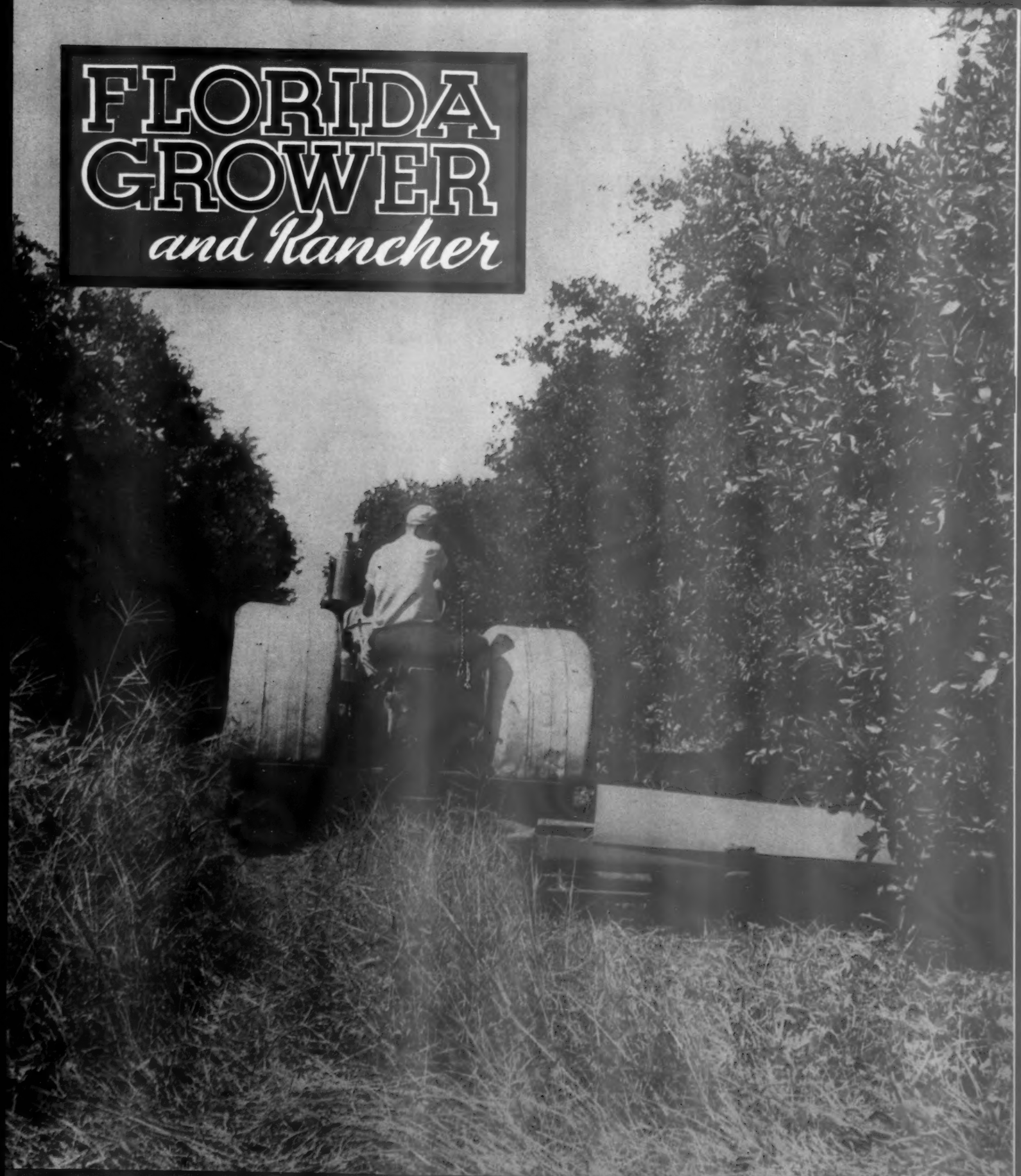
FLORIDA GROWER and Rancher



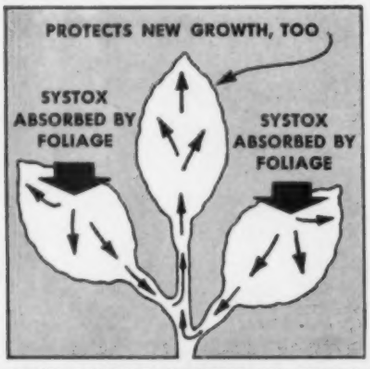
Pasture Fertilization and Beef Production

September 1958
Price 10 Cents

NOTHING STOPS APHIDS AND MITES ON CITRUS LIKE SYSTOX®

Systemic action protects entire tree . . . lasts longer per spraying . . . costs less per season

Increase your citrus income and profits this year with SYSTOX, the most effective and economical insecticide for the control of aphids and mites on citrus. When you spray with SYSTOX, you get virtually a complete clean-up of aphids and mites immediately. And you prevent further aphid and mite damage for a long period, because SYSTOX goes right on protecting against attack since it works from *inside* the tree, in the sap stream.



HOW SYSTOX WORKS IN TREES

SYSTOX spray on foliage is absorbed into sap stream where it translocates, protecting the entire tree, even new growth formed after spraying. SYSTOX even kills insects on underside of leaves, where they are often missed by ordinary chemicals.

SYSTOX is absorbed by the foliage and the entire tree, including new growth developing after application, is rendered toxic to aphids and mites. SYSTOX can't be washed off by rain . . . it's harmless to beneficial insects after application . . . lasts longer . . . requires fewer sprays . . . *costs less per season!* Get SYSTOX now at your Farm Supply Dealer's and insure top citrus profits this year.

No other insecticide offers these important advantages

SYSTOX is harmless to beneficial insects after application.

SYSTOX lasts longer, requires fewer applications.

SYSTOX is absorbed into the foliage of the tree, can't be washed off by rain.

SYSTOX works in the sap stream – protects entire tree – guards new growth as it forms.

SYSTOX A PRODUCT OF **CHEMAGRO**

"Chemicals for Agriculture–Exclusively!"

The Cover . . .

One of the main chores in citrus groves during the summer is to chop in or break down the cover crop. This month's cover photo—taken in Bill McMullen's grove at Riverview – shows Patrick (Pat) Swilley chopping in crab grass, one of Florida's popular native cover crops.

Like many other citrus growers, Mr. McMullen chops in the summer vegetation once about August. Then he disks it into the soil in the fall.

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COMING EVENTS

Sept. 4: Leon Feeder Calf Sale, Monticello.
Sept. 6: Youth Hereford Sale, Alachua.
Sept. 10: Florida Guernsey Sale, Alachua.
Sept. 11: Angus-Hereford Feeder Sale, Gainesville.
Sept. 18: Florida Holstein Sale, Bartow.
Sept. 18: Gainesville Market Feeder Sale, Gainesville.
Sept. 24-26: 15th annual Florida Fruit & Vegetable Association convention, Miami Beach.
Oct. 13-14: Junior Livestock & Poultry Show, Ocala.
Oct. 20: Inter-State Fair, Pensacola.
Oct. 28-Nov. 1: North Florida Fair, Tallahassee.
Oct. 29-31: State Horticultural Society annual meeting, Clearwater.

How smart are YOU?

1. What is the oldest public park in the United States?
2. From what is the best paper made?
3. Name the four qualities of taste sensation.
4. What is the correct name of the Statue of Liberty?
5. To what colors are partially color-blind people most frequently insensitive?
6. Is pure lead a hard or soft metal?
7. Who owns St. Helena?
8. How many holes are on the disk of a dial telephone?
9. From what does the word *camera* come?
10. What is the largest reptile in the United States?

(Answers on Page 39)

FLORIDA GROWER and RANCHER

TAMPA, FLORIDA – SEPTEMBER, 1958

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P. O. Box 2350, Tampa, Florida

Director Named

James T. Hopkins last month assumed the position of Industrial Relations Director for the Florida Citrus Exchange.

Hopkins served in the same capacity for the Florida Citrus Commission from 1954 to 1957. More recently, he was public relations director for the Orange Memorial Hospital in Orlando.

"I say a woman's place is in the kitchen."

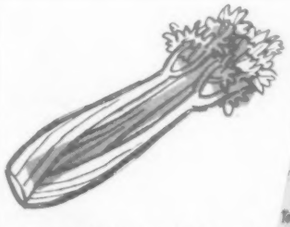
NEW ONE-SPRAY WAY to control bacterial and fungal diseases!

Agri-mycin 500 is a new anti-bacterial, anti-fungal spray that gives your fruit double protection with one spraying!

Experiment stations report getting over 200% greater yields of unblemished, premium-size fruit with Agri-mycin 500 than from diseased check plots! Better size fruit, less cracking and scarring!

bacterial spot, early blight, late blight, septoria leaf spot, anthracnose and leaf mold . . .

bacterial spot, anthracnose and leaf mold . . .



bacterial blight, late blight, early blight and leaf spot diseases . . .

Agri-mycin 500 is a new exclusive patented combination of Terramycin®, streptomycin and basic copper sulfate. This combination exerts a synergistic action to give you *increased disease control* over *both* bacterial and fungal diseases!

Controlled field experiments show Agri-mycin 500 gives better control of more diseases than either antibiotics or copper used alone. For example, in tests Agri-mycin gave 93% disease control where a combination of two plain streptomycin products gave 66% control. In another test, Agri-mycin was 100% effective where streptomycin products alone showed as low as 38% disease control!

This better disease control has resulted in over 200% increase in yields over diseased check plots.

Unlike ordinary fungicide sprays and dusts that merely try to fight internal infections from the outside, Agri-mycin 500 is absorbed through cell walls. It fights disease inside plant tissues, where they start, as well as on the surface of your plants!

Get the full yield potential of your fields this fall and spring. Protect your plants and fruit against the diseases listed in the box above, with Agri-mycin 500—the new one-spray way to control bacterial *and* fungal diseases!

For growers who do not need the added protection of a copper sulfate, Agri-mycin 100—the first successful control for bacterial diseases of vegetables—is also available.

Agri-mycin® 500*

Pfizer

Chas. Pfizer & Co., Inc.
Brooklyn 6, N.Y.
World's largest producer of antibiotics

AGRI-MYCIN 500 AND AGRI-MYCIN 100 ARE NOW AVAILABLE FROM THESE FLORIDA DISTRIBUTOR LOCATIONS:

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Belle Glade
Fort Myers
Gainesville
Homestead
Ocala
Pahokee
Palmetto
Plant City
Pompano Beach
Sanford
Vero Beach
Wauchula
West Palm Beach

IDEAL FOR FLORIDA'S SOIL AND CLIMATE

Yes, Chilean is the ideal fertilizer for Florida's soil and climate. You can be confident of maximum yields and highest quality fruit with Chilean Nitrate of Soda. Its nitrogen is *100 per cent nitrate nitrogen*—fast-acting, efficient, and dependable.

If you have any doubts about the value of a high nitrate nitrogen program... we suggest you set aside a block of trees and use Chilean as your sole source of nitrogen on them. Compare them with the rest of your grove and convince yourself.

In addition to its vital nitrate nitrogen, Chilean contains sodium and beneficial minor elements. Soil acidity is a problem in many groves, therefore, the sodium in Chilean Nitrate is important. It is highly mobile – moves downward rapidly to destroy acidity in both top- and sub-soil... helps maintain a desirable pH level; conserves soil supplies of available potash, calcium and magnesium. It increases the availability of phosphate in the soil and therefore improves the efficiency of mixed fertilizers containing it.

Chilean Soda is a rare natural combination of nitrate nitrogen for fast action, sodium to destroy acidity and minor elements to guard against "hidden" plant food deficiencies. Straight or in mixed fertilizer, specify Natural Chilean Nitrate of Soda.

NATURAL CHILEAN NITRATE OF SODA

Inspect Regularly For Screwworms, Expert Recommends

THE SCREWWORM has not yet been brought under control in the Southeast according to Jim Brogdon, Extension entomologist.

Brogdon urges that Florida farmers and ranchers continue their vigilance in respect to this insect particularly by inspecting their animals frequently and reporting any infestations at once to their county agent.

When screwworms are found, he recommends prompt treatment of the wounds with approved remedies—EQ 335 or Smear 62.

Moreover, cattlemen are asked to collect 10 of the maggots and carefully place them in a medicine bottle half full of clean water. Then the bottle should be tightly capped and put in a cool place until called for by a worker in the eradication program.

It is recommended that animals be confined to pens until the wounds are healed. Often more than one application of the remedy is required to control a given case.

The Screwworm Eradication Program is a state-federal cooperative venture of the Florida Livestock Board and the U. S. Department of Agriculture. Headquarters are at Sebring.

* * *

Field Manager

Chester T. Jackson of Orlando was recently appointed technical Florida field manager by the National-Riverside Company, frost protection firm.

A native of Florida, Jackson has spent most of his life studying agriculture—and particularly citrus—in this state. He also has spent several years in California, studying citrus frost protection methods there.

National-Riverside Company invites growers to consult with Jackson about technical services at no obligation.

TRIANGLE BRAND

Still Your Most Dependable Fungicide

The new organic fungicides that have received so much publicity in the past few years may be superior to some of the older standard sprays **for certain isolated applications.** But it is well to remember that many of these new "miracle" sprays have yet to stand the test of time.

We suggest that unless the superiority of a new fungicide is conclusively proved by exhaustive tests under severe climatic conditions, it would be wise to stick with the dependable fungicides.

Seventy years of experience have demonstrated to farmers, orchardists and agronomists that copper sulfate fungicides, if properly formulated and applied, are completely dependable, chemically effective under a wide variety of conditions . . . and last but not least . . . **economically practical!**

Triangle Brand Copper Sulfate & Basic Copper Sulfate are recommended for controlling the following diseases:

Bitter Rot — Scab — Blotch — Fruit Spot — Black Rot
Cloud & Phoma Fruit Spot of Apple — Anthracnose of Cantaloupe, Watermelon & Small Fruits — Bitter Rot, Black Rot & Downy Mildew of Grape
Beet, Tomato & Spinach Damp-off (Seed Treatment) — Lettuce Drop
. . . and many diseases attacking the foliage and fruit of citrus and nut trees.

Control POND SCUM and ALGAE in farm waters with Triangle Brand Copper Sulfate

FENCE POST treatment with Triangle Brand Copper Sulfate prevents decay and termite damage

Send today for information on these important uses of copper sulfate

PHELPS DODGE REFINING CORP.
300 PARK AVE. NEW YORK 22, N.Y. • 5310 W 66th STREET, CHICAGO 38, ILL.

Per Capita Consumption of Commercial Vegetables Is Up

PEOPLE IN this country are eating substantially more commercially produced vegetables today.

Annual consumption of commercially produced fresh and processed vegetables (fresh equivalent) increased from an average of 170 pounds in 1937-39 to about 200 pounds in 1955-57. Part of this increase was due to the declining importance of home-produced foods.

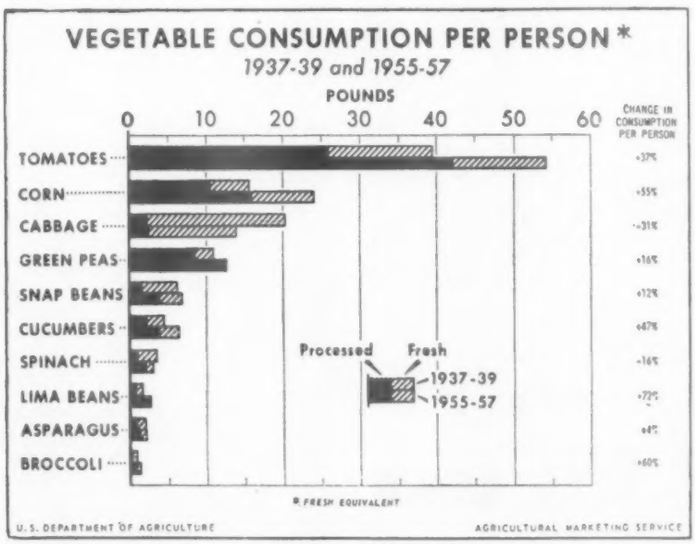
Overall increase in per capita consumption of commercially produced vegetables during the past pre-war period.

Per capita consumption of tomatoes, the largest item, increased from about 40 to 54 pounds. All of the increase was in use of the processed commodity.

Corn and cucumbers also registered sharp increases with gains in both fresh and processed.

Only cabbage and spinach showed a decline in total consumption. In both cases, it was because of a sharp decrease in the use of the fresh item.

Consumption of green peas, snap beans, lima beans, asparagus and broccoli increased. In these cases, processed gains more than offset declines in fresh use.



Increased use of the frozen product accounted for all the rise in consumption of processed peas, and contributed to the rise in processed snap beans, lima beans, and asparagus.

Consumption of fresh vegetables has declined moderately.

For most vegetables used in both fresh and processed forms, total per capita consumption (fresh equivalent) was significantly larger in 1955-57 than in the immediate 15 to 20 years has been due entirely to expansion in the use of processed items.

Soil Fumigation Brochure

How soil fumigation can be used to rid soil of weed seeds, diseases and such soil pests as nematodes is outlined in a new eight-page brochure published by Stauffer Chemical Company.

Profusely illustrated, the brochure describes the most effective methods of application which have been developed by the firm's field studies with their soil fumigant, Vapam.

Included are photographic descriptions of simple application techniques by rotary tiller, soil injection, overhead sprinkler irrigation, hose proportioner and basin flooding. The advantages of soil fumigation in nurseries, orchard sites, vegetable acreage and plant beds are discussed.

Copies of the brochure are available, without charge, from: Stauffer Chemical Company, 380 Madison Avenue, New York 17, New York.

Broilers and fryers will take top billing on the plentiful foods list for September, according to the Food Distribution Division of the USDA's Agricultural Marketing Service.

Other items on the September plentiful foods list will include peaches, potatoes, tomatoes, sweet corn, lima beans, peppers, cabbage, lettuce, onions, canned ripe olives, and milk.

Harvest more profits . . . when you plant the best!

Tomato and Pepper growers across the nation find yields are bigger, quality superior . . . when they plant seed from Clarence Brown Co., foremost authority on these important crops.

More than three decades of specialized experimentation in the disease-free summer climate of San Juan Capistrano has produced this vigorous, clean, healthy seed, your surer start to greater profits. Plant the best . . . Clarence Brown specialized strains.

Available through authorized distributors and their dealers.

Clarence Brown Co.

GENERAL OFFICES: MODESTO, CALIFORNIA
RESEARCH OFFICES: SAN JUAN CAPISTRANO, CALIFORNIA

A Specialist's Seed for Richer Harvests

The finest in yellows resistant Cabbage Seed has been painstakingly produced through specialized research of the Wisconsin Cabbage Seed Co. Nearly half-a-century of careful selection and breeding has made seed by this firm outstanding for production of richer, more profitable harvests. Unsurpassed because they *are* products of specialization.

MARION MARKET—74 days. 5 lbs. Selection from Copenhagen but is somewhat later in maturing. Plants larger and more vigorous than regular Copenhagen types. For market and early kraut. Splendid cabbage from seed developed by Wisconsin Cabbage Seed Co.

WISCONSIN CABBAGE SEED CO.
Racine, Wisconsin

Available only through authorized distributors and their dealers

SUPERIOR FERTILIZER AND CHEMICAL COMPANY

FERTILIZERS AND INSECTICIDES THAT ARE SUPERIOR

Factories and Offices: TAMPA and FORT PIERCE, FLORIDA

Citrus CLOSE-UPS

By FRED P. LAWRENCE
Citriculturist
Florida Agricultural Extension Service

Rust Mite Follow-Through Up to the present time, Florida citrus growers have done one of the most thorough jobs of rust mite control on the present crops that has been done in many years.

Most growers realize the importance of producing bright fruit.

Many also understand that a rust mite infestation stunts the growth of the fruit and results in a loss of 1 to 4% in the number of boxes by this loss in size.

The fact has been established, and is generally accepted, that russet fruit lose in weight about twice as fast as bright fruit on the way from tree to consumer. The producer of early fruit also recognizes the fact that a rust mite infestation retards maturity by interfering with the normal processes of ripening.

Growers, as a rule, are well informed on the effects of this pest on the crop, the best methods of control, and the economic importance of its control. So far this season, so good. But the job is not completed.

Still too many growers seem to act upon the assumption that the rust mite disappears during the summer rainy season and can be safely forgotten thereafter.

The rust mite is on the job throughout the year. And the fruit is susceptible to attacks and injury from the time it sets until it has been picked from the tree.

Every year many growers, with good intentions, allow the good work they have done early in the season in mite control to be undone. Profits are lost by neglecting to follow through with control measures when they are needed.

The Lake Alfred Citrus Experiment Station states:

"Rust Mite is usually the chief problem in August and this year will be no exception. This is very important, especially to those who wish to grow bright fruit.'

Three materials are available for rust mite control—zineb, chlorobenzilate and sulphur (both wettable and dusting).

Zineb at ½ pound per 100 gallons is the most effective of the three materials. However it has no fumigating action that kills only when it actually contacts the mite. This means that it must be applied thoroughly for best results.

Chlorobenzilate also at ½ pound or ½ pint per 100 gallons, is slightly more effective than sulphur but much less effective than zineb. Again good coverage is essential.

Sulphur sprays and dusts are the simplest to apply because sulphur gives a good fumigating action. Sulphur is preferable where thorough coverage cannot be obtained with the use of the other materials.

Zineb, chlorobenzilate or sulphur may be combined with parathion or malathion if these materials are needed for scale control.

Too Late for Oil Spray Records show that groves receiving oil spray after August 15 were hard hit by last winter's freeze. The oil has a physiological effect on trees that lowers resistance to cold.

Junior Citrus Institute A very successful Junior Institute was held August 4-8 at Camp Cloverleaf on Lake Placid. Approximately 60 boys attended classes to study and learn about citrus diseases, insects that attack citrus, cultural practices in grove management and record book maintenance.

Field work was carried out in the camp's 4½ acre grove—transplanting, pruning, fertilizing, and insect identification. Four-H Club boys with citrus projects were invited to attend.

* * *

A chance remark is anything a man manages to say when two women are talking.

1. Safe! Especially Formulated for Foliar Application.
2. Makes Possible Maximum Yields *and* Top Quality.
3. Saves Time, Labor, Equipment.

The low biuret content of new Grace Crystal Urea gives you concentrated nitrogen 46% that's *completely safe* for foliar application.

The nitrogen in Grace Crystal Urea is *immediately* available to plants, and the nitrogen goes to work almost at once. Supplying this *extra* nitrogen in this easy way gives you maximum yields *and* top quality.

Response in terms of improved foliage, color or growth may be seen within a few days after spraying. Even when soil conditions are poor—for example, when there is excessive dryness, wetness, cold, or leaching from heavy rains—response from foliar feeding with Grace Crystal Urea is good—and fast.

Grace Crystal Urea can be added to your regular insecticides or fungicide formulations and sprayed at the same time you apply these materials. You do two jobs at once, which frees men and equipment for other work.

Grace Crystal Urea is compatible with commonly used spray materials. The crystals dissolve readily and completely, won't clog spray hoses, valves or nozzles. Solutions of Grace Crystal Urea are non-corrosive—won't harm rubber, metal or wood.

FOR SOIL APPLICATION use free-flowing Grace Urea Prills. Guaranteed 45% Nitrogen. Ideal for Top-Dressing or Side-Dressing of fruits and vegetables, as well as field crops.

Grace Chemical Company *A Division of W. R. Grace & Co.*
MEMPHIS, TENNESSEE

Insect Control Factors Listed

EFFECTIVE CONTROL of insects involves more than suitable spray material and application.

So declares Dr. R. E. Waites, assistant entomologist of the Florida Agricultural Experiment Station. He points out:

When using insecticides, it is necessary to study (1) the habits of the pest to be controlled, (2) the physical properties of the insecticides, (3) the influence of the weather, (4) the timing of the application, and (5) the type of plant growth.

Insecticides are classified according to the way they get into the insect's body cavity:

Contact poisons enter through the skin by touch. *Stomach poisons* are eaten or taken directly into the alimentary tract. *Fumigants* enter through the breathing tubes or the skin as gases.

Dr. Waites says contact insecticides should be applied thoroughly. Many kinds of pests—such as aphids and scale insects—do not and cannot move about, he explains.

Should the insecticide have some fumigating action, it may suffice to place it within a short distance of the insect. For instance, nicotine in hot weather will kill aphids not actually wet by it.

Leaf feeding insects move about more, therefore thorough applications of the stomach poisons is less necessary. But in treating boring insects, thoroughness is important in order to destroy the insect before it gets out of the reach of the poison.

Insecticides should be applied when the pest is in a susceptible condition. If applied to late, the pest may already have caused damage.

Apply dusts in the early morning or evening, when the weather is calm.

The old saying, "if a little is good more is better" does *not* hold true for the use of insecticides. Excessive use of insecticides is wasteful, expensive and often injurious to plants, animals or soil.

"Looks young to have that many, doesn't she?"

Get the Bonus yields with Swift's Brimm for vegetables

EXTRA GROWTH ELEMENTS IN BRIMM BOOST YIELD-POWER OF YOUR LAND

Market time is when you *really* appreciate the importance of your investment in Brimm Plant Food. Brimm gives a new kind of boost to the yield-power of your vegetable cropland—makes every foot of it worth more because it produces more for you.

Brimm is tailor-made at our Winter Haven and Pompano Beach plants to produce maximum yields and bring crops to maturity on time. It is a quality plant food right through. Brimm quality begins with the formula. It is best for Florida potatoes, tomatoes and other vegetable crops. Brimm is properly cured, thus insuring free-flowing product for your satisfaction.

GOLD BEAR BRAND

The Gold Bear line of Insecticides and Fungicides provides you with all necessary chemicals for effective pest and disease control.

SWIFT'S GROWERS' ADVISORY SERVICE

At no cost to you, a Swift's Growers' Advisory Representative will help you plan your entire program, from planting to maturity. These men are qualified by training and practical experience to assist you with your production problems.

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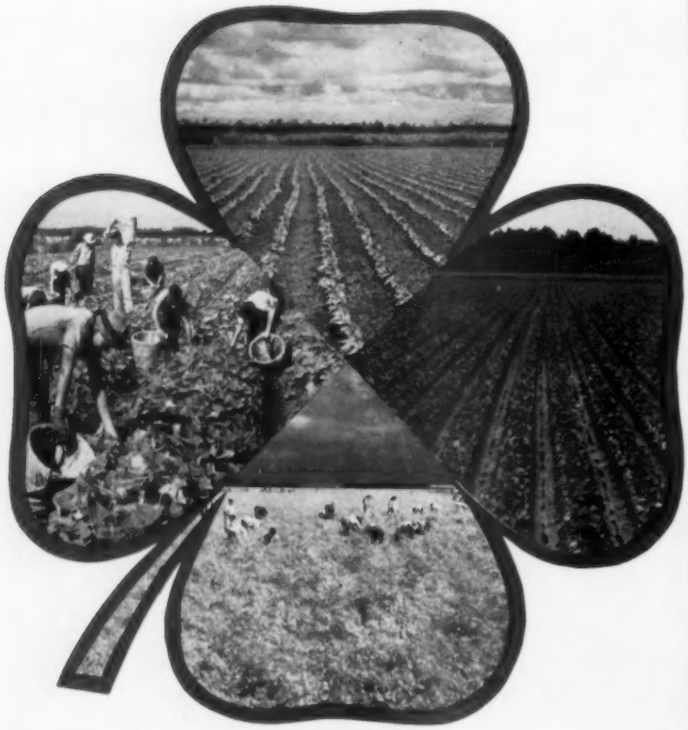
AGRICULTURAL CHEMICAL DIVISION
Winter Haven • Pompano Beach

Swift
102ND YEAR

To Serve Your Farm and Family Better



When it comes to vegetables

GROW FOR QUALITY

(It's the Best Profit Insurance You Can Have)

High yield per acre is always important, but when it comes to vegetables, quality is the surest key to better profits. But, you can be more sure of both yield and quality by using Ideal Fertilizers with organic nitrogen from higher grade sources together with other proved ingredients for complete, continuous crop diet, and by safe-guarding against damage with FASCO proven pesticides.

Almost as important as these fine products is the service that stands behind them . . . agronomists, horticulturists, entomologists, plant pathologists and chemists working on Florida's agricultural problems—and yours—serve you through your W & T Representative.

IDEAL FERTILIZERS AVAILABLE WITH GENUINE PERUVIAN GUANO

So, for both high yield and quality vegetables this season, depend on Ideal quality Fertilizers, FASCO proven Pesticides and the capable assistance of your W & T Representative. Give him a call today.

IDEAL FASCO

WILSON & TOOMER FERTILIZER COMPANY

Plants in Jacksonville, Tampa, Cottondale, Port Everglades

GENERAL OFFICES • JACKSONVILLE, FLORIDA

FLORIDA AGRICULTURAL SUPPLY COMPANY

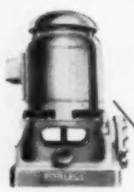
Milk Solid Content Influenced by Feed

QUALITY of the feed a cow gets determines the butterfat and solids-not-fat content of her milk, according to research conducted by R. B. Becker, Florida Agricultural Experiment Station dairy husbandman.

Butterfat went down, the research showed, when cows received beet pulp, chopped hay or other coarse feed along with the concentrate. But the butterfat content rose to the normal level of the cow's capacity when long hay, corn silage or good green pasture was substituted for coarse roughage.

Dr. Becker reports that the solids-not-fat dropped when the ration was deficient in energy feed. (Solids-not-fat, which comprise about 8.5% of the milk, contain the vital minerals and other health-giving nutrients of milk.)

Increasing the intake of energy feeds brought the solids content back to normal.



4 Pumps

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1 OIL OR WATER LUBRICATED DEEP WELL TURBINE PUMPS—*First* in sales because they're first in dependability. Often imitated in design and construction but never duplicated. No Peerless turbine is delivered off a stock pile; each is individually engineered to your well. Widest range of head, capacity and hp. Up to 30,000 gpm; lifts from 1000 feet or more!

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CATTLE on pastures receiving the full treatment (right) showed notable gains over stock that grazed on untreated pasture (left).

Pasture Fertilization and Beef Production

By L. H. HORN and C. V. ROSS
Specialists in Animal Nutrition*
Swift & Company

GRAZING of cattle during the winter months is a relatively new—but sound—system of livestock management in the South.

Such a program increases the units of livestock that can be produced on a given area. It also tends to level out the marketing of cattle during the spring months when there is generally a scarcity of slaughter cattle available in this region.

To find the answer as to how to produce cattle most economically on a grazing program, Swift & Company animal scientists and agronomists conducted a two-year pasture fertilization and grazing experiment in south central Florida.

Various levels of 8-8-8 fertilizer were applied to Pangola grass pastures; then the resulting beef production was measured. The results of the two years' work were consistent and followed the same trends.

As the level of fertilization was increased there was a progressive increase in the level of protein. There was also a decrease in dry matter in the forage.

Forage quality and quantity consistently improved with progressive increases in the application of 8-8-8 fertilizer per acre. This was reflected in the results of grazing steers by increased daily gains, rate of stocking, total gains, and gross returns per acre.

Returns were greatest from the forage treated with 1,200 pounds of fertilizer per acre. This would tend to indicate that even higher levels of fertilizer may prove more profitable.

Pangola grass was chosen for the experiment because it responds well to good soil treatment and fertilization, is suited for use on a wide variety of soil types, and will survive periodic flooding and extreme drought.

Glades County was selected as the site of this experiment. So pangola grass was established on 90.5 acres of irrigated land classified as "moderately good sandy soil."

(Before water control was established, this land was flooded during part of the year. During the remaining months, it would suffer from drought.)

Three hundred pounds of 8-8-8 fertilizer per acre—the level of application and analysis generally recommended by the Florida Agricultural Experiment Station and fertilizer manufacturers as a minimum for establishing grass pastures—were applied when the pastures were initially established.

When forage was established the following season, five fields were laid out. Each was subdivided into two plots for rotational grazing.

Fertilizer was applied as top-dressing on four dates: November 8, 1954; February 2 and October 10, 1955, and on February 29, 1956.

Levels of application per plot each time were: Plot I, none; Plot II, 300 pounds (a total of 600 pounds a year); Plot III, 400 pounds (800 pounds annually); Plot IV, 500 pounds (1,000 pounds per year), and Plot V, 600 pounds (a total of 1,200 pounds a year).

In addition to the above plots, a pangola grass pasture fertilized with 300 pounds of 8-8-8 per acre was maintained for reserve experimental animals.

Moreover, a trace mineral mixture was provided for free choice consumption by cattle in all pastures.

Crossbred Brahman-native yearling steers—selected from approximately 800 head of cattle for uniformity in type, grade and weight—were used in these experiments.

All steers were individually branded, wormed with phenothiazine, and vaccinated for blackleg. They were sprayed for insects periodically during the experiment.

The steers were placed on test the first year three weeks after the pastures were fertilized.

Grab samples of the forage were taken each month throughout the two year experiment. The resulting data indicate that as the level of fertilizer was increased, the dry matter decreased; and that the protein content (on a dry matter basis) increased in the forage.

Furthermore, the analyses also show that the protein content in the non-fertilized forage tended to level out the second year and vary less with the seasons. This was probably the result of depleting the initial treatment of 300 pounds per acre when the forage was established.

All pastures were initially stocked with the number of animals expected to be needed through the grazing season to keep the pastures grazed uniformly. During the grazing season, adjustments in rate of stocking—to maintain approximately the same quantity of available forage on all pastures—were made at the 28-day weigh periods.

Rotation of steers on plots within treatments also generally took place on weigh days. This allowed the alternate plots to be irrigated and gave the forage a chance to recover.

The first group of steers were grazed from November 29, 1954 until June 27, 1955. The second group was on test from September 19, 1955 until April 29, 1956.

Both years, the experimental animals were placed on forage when the grass was starting its fall growth. They were removed in the spring when insect infestations began to disturb them to the point of causing a loss in weight or grade.

Quantity of available forage to start the test grazing was maintained at an equal level on all plots by mowing, and by grazing other cattle during the summer.

The accompanying table presents a summary of the two years' work. From it, we note:

Daily gains and gain per acre were consistent for the two years, and increased progressively with the level of treatment. The gains indicate the cattle in the control pasture grew satisfactorily, but improved in condition only slightly over their feeder grade.

Incidentally, apparent condition and luster in the hair coat of the steers on fertilized pastures was noticeably better than that of cattle on the non-fertilized pasture.

SUMMARY OF PASTURE GRAZING TRIALS—AVERAGE TWO YEARS

ANNUAL TREATMENT/ACRE	None	600	800	1000	1200
Number of acres	17	19	19	19	16.5
Avg. grazing days/year	215	217	215	215	215
Avg. Stocking rate/acre	0.62	1.26	1.26	1.26	1.31
Avg. daily gain, lb.	0.80	0.96	1.02	1.19	1.33
Gain/acre, lb.	106	259	272	319	372
Dressing percentage	51.2	52.0	52.7	52.2	52.8
Carcass grade*	5.5	4.8	5.3	5.1	4.8
Value of beef gain/acre	$13.86	36.52	36.98	43.88	53.10
Fertilizer cost/acre	None	13.80	18.40	23.00	27.60
Return/acre above fert. cost	$13.86	22.72	18.58	20.88	25.50

*Grading system—Range from 1 (Prime) to 9.

*Dr. Ross is now associate professor, University of Missouri.

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GROWERS NOW IN THE DRIVER'S SEAT

By NORBERT LAVIGNE

FLORIDA CITRUS GROWERS with fruit to sell are in the driver's seat this year. Just how long they will remain in this preferred position is anyone's guess. It certainly will not last forever.

Oranges—if you've got any to sell for next season—are an extremely commodity these days.

And, for that matter, so are grapefruit and tangerines.

It all goes back to last season's numerous freezes.

The cold spells which came one right after the other, caused drastic reduction in the amount of frozen concentrate made last season and will also cut down the amount which can be made next season.

On top of these two bullish factors is the expectation that the supplies of concentrate on hand when the new season starts will be the smallest in many years.

Frozen concentrate makers, as a result, will be in desperate need of oranges to replenish their stocks and keep their customers supplied for another year.

At the same time, fresh fruit shippers will be trying to buy suitable crops for their purpose, along with processors interested in putting up single-strength juice.

On top of all this will be the demands by chilled juice companies for oranges to keep their comparatively new product, which has attained wide distribution, flowing to market.

There has been more buying of still unripened crops this summer than in many years. Much of this is speculative.

Last season's freezes solved the price problem for those growers who weren't hurt too much. But the current high prices aren't much consolation to the grower who lost his fruit and trees.

Growers who suffered some loss but still had fruit left last season and a reasonable crop in prospect next season will wind up with more money, however, than they would have received without the cold weather.

Most growers will tell you that the more than 100,000,000 boxes of oranges forecast by the government before last winter's freezes would have probably been a conservative figure. The cold weather cut the orange crop to 82,500,000 boxes, and grapefruit from a pre-freeze estimate of 38,000,000 boxes to an actual production of 31,100,000 boxes.

Tangerines were cut in half from an estimated 4,500,000 boxes to an actual 2,300,000 boxes.

All kinds of guesses are being made on the size of the coming crop. This figure is important, of course, as the amount of fruit available, added to what frozen concentrate and other processed products happen to be on hand as the season starts, determines the total supply.

It is this total supply, balanced against existing demand, which determines what fruit is worth.

Even in midsummer, growers were being offered what would have been considered fantastic prices less than a year ago.

Growers were making deals at $2 to $2.25 a box on the tree for their early and midseason orange crops. Sales at $2.50 a box across the board on crops which also included Valencias were reported.

Growers didn't seem much interested in selling straight Valencia crops, preferring to wait a while and see whether the $2.75 to $3 a box being offered actually reflected the true value of their choice crops.

Grapefruit growers also will be cashing in on the over-all scarcity of citrus fruit in Florida during the coming season. During the summer, sales at $1.00 a box for the Duncan or seeded variety and $1.25 to $1.50 for seedless grapefruit were reported.

Because of the strong fresh grapefruit market in prospect, growers of pink and red-meated varieties haven't shown any great interest in selling, apparently preferring to wait and put a price on their crops in line with what the fresh market will pay.

The biggest problem facing some growers is not getting a high price for their fruit but working out the kind of a deal which will keep them from getting into the higher income tax brackets and having to turn over a big chunk to Uncle Sam.

This is particularly true of growers who had substantial crops left last season after the freezes. They got high prices for that fruit and, if they want to sell, can get a high price for their 1958-59 crop.

And if they want it, they can collect and put the money in the bank long before the fruit is ready to pick.

All kinds of arrangements are being worked out to spread the income out and keep it from being top heavy for 1958. Some growers are taking a modest down payment and waiting until after Jan. 1, 1959, to take the rest.

It's a far cry from the situation which prevailed last year at this time, however, when growers were wondering if they would be able to sell their fruit at even a small profit.

It must be remembered that supplies had almost caught up with demand when last season started. Growers weren't worried about how much income tax they would have to pay. Rather, many were worried if they would have to pay any income tax at all.

All kinds of guesses are being made on the size of next season's orange crop, but the first official figure won't come out until Oct. 10.

The Florida Citrus Commission, which has to do some estimating on its own before the U. S. forecast comes out, is basing its new budget on an orange crop of 80,000,000 boxes, smallest in many years and 2,500,000 boxes less than were actually harvested last season.

The high prices which have resulted on concentrate and other canned citrus could create a problem, however.

Marvin H. Walker, veteran analyst, is frankly worried over what may happen if high prices drive Florida's customers to "orange-ades" which have only 10 to 25 percent orange juice.

Already, the expected shortage in oranges has resulted in one big change:

Pasco Packing Company at Dade City, world's biggest citrus processing plant under one roof, will no longer pack any single strength citru juices or grapefruit sections. Instead, it will utilize its entire facilities for the production of frozen and processed concentrates.

Executive vice president W. F. Edwards announces Pasco's management made the decision not to process single strength items or sections because of the anticipated short fruit crop in the coming season. However, the move is intended as a permanent policy decision.

Facilities, nevertheless, will be kept intact to enable resumption of single strength processing should future conditions warrant.

Although Pasco has been Florida's largest producer of single strength juices and sections in the past, concentrates have received increasing emphasis for a number of years. The complete changeover to concentrates, Edwards says, is predicated upon sound business practice.

Pasco will continue and expand sales of retail and institutional size concentrates. It is also stepping up its activity in the sales of high Brix concentrates and bulk sales to the fruit drinks and beverage base industry.

There is plenty of capacity in the other processing plants to put up all the single-strength juice in prospect from a limited crop.

Florida concentrators raised their prices shortly after the freeze in order to spread out the available shortened supplies as much as possible. For the month of July, for example, consumers paid 24¢ per six-ounce can for frozen orange concentrate, compared with slightly less than 14¢ a can in July, 1957.

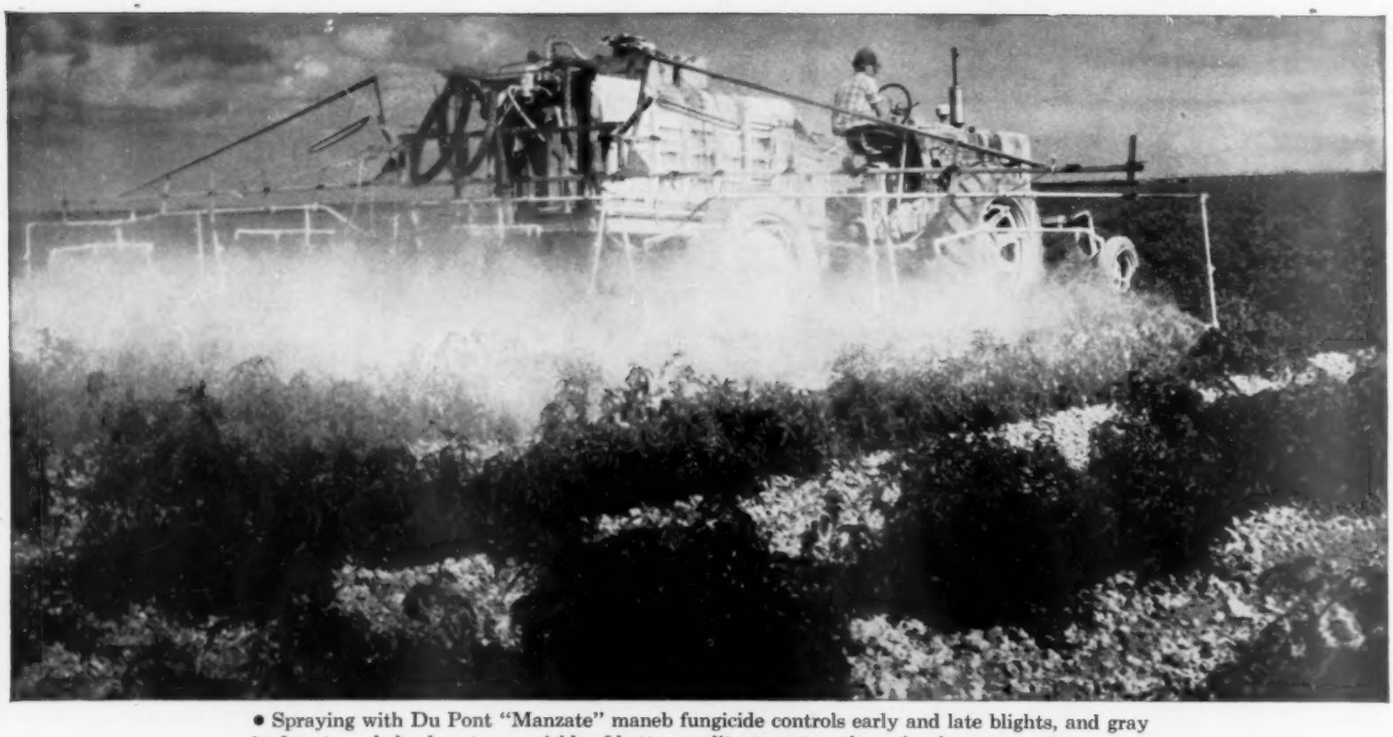
High prices have slowed down consumption by 40% under the same month last year, but even with this drastically reduced buying, there will be several million gallons less concentrate on hand when the new season starts than is considered a normal pipeline supply.

The consensus among well-informed industry leaders is that next season will start later than usual and will be shorter than normal.

The first grapefruit should start moving the latter part of this month, and reach volume by middle of October.

Based on growing conditions so far, oranges should start moving to market somewhere from the middle to the end of October, with volume being reached early in November.

As mentioned before, the grower is once more in the driver's seat and thoroughly enjoying the situation which is all the more pleasant because it is, for most of them, unexpected.



• Spraying with Du Pont "Manzate" maneb fungicide controls early and late blights, and gray leaf spot . . . helps boost your yields of better quality tomatoes through a longer growing season.

Protect vegetable crops...harvest more No.1's with Du Pont's wide selection of organic fungicides

Du Pont offers Florida vegetable growers the widest selection of fungicides available for the most effective control of major fungus diseases. Du Pont "Manzate" maneb, "Parzate" in nabam and zineb formulations and "Zerlate" ziram—all are fungicides with outstanding records of performance in disease control. All are fully registered for use in Florida.

And now Du Pont announces a new disease control chemical for use in Florida—"Thylate" thiram fungicide. "Thylate" is recommended for the control of early blight and rhizoctonia in celery-plant beds and gray mold on tomatoes.

MANZATE®

Maneb Fungicide

Unequaled in late blight control in Florida tests

Late blight was reported as the most serious disease encountered during spring '57 tests of fungicides by the Everglades Experiment Station. In fact, one of the worst outbreaks in the history of tomato production occurred in many areas of South Florida in the spring of 1957. And maneb was found to be more effective in the control of late blight than any other material tested.

Use "Manzate" on tomatoes, beans, celery, cucumbers, onions, potatoes and watermelons to cut disease losses straight through the season.

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"Parzate" nabam and zineb fungicides offer low-cost disease control on many crops such as watermelons, cucumbers, potatoes, lettuce, tomatoes, sweet corn, celery and peppers. "Parzate" resists washing-off because the small particles stick to leaves and fruit.

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Use Du Pont "Zerlate" Ziram Fungicide—as a spray or dust for effective control of many plant diseases. "Zerlate" has good adhesive properties . . . controls early blight on potatoes, early and late blights on celery. Use "Zerlate" to control downy mildew and other leaf diseases on cucurbits.

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Latest vegetable disease control development

The latest addition to Du Pont's line of fungicides—"Thylate" has been thoroughly tested and has given outstanding control of early blight and rhizoctonia in celery-plant beds and of gray mold (botrytis) of tomatoes.

On all chemicals, follow label instructions and warnings carefully.

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department, Wilmington 98, Delaware

Tobacco, from Seed to Satisfaction, *through Science*

FLUE-CURED TOBACCO plants in the front row show symptoms of the various types of mineral deficiencies. From left, these are: sulfur, magnesium, calcium, potassium, phosphorus, and nitrogen. Plants on the back row received complete fertilizers.

IN THIS ERA of specialization and science, the successful Florida tobacco farmer is right in step with the times.

Production of flue-cured tobacco is highly specialized. Consequently, intensive supervision and the help of science are "musts" in producing the quality leaf which the processor and the consumer demand.

Many factors enter into the production of good quality flue-cured tobacco. And, as is the case concerning any other crop grown, the soil is of major importance in tobacco growing.

Soil type, fertility and moisture are all very important in the production of a good quality light, bright golden leaf. Let's examine each of these in turn:

Well-drained sandy or sandy loam soils are best suited for the production of large yields of good quality tobacco. In Florida, the predominate soils that meet these requirements are the Norfolk, Arredondo, and Lakeland series.

Because most of the soil on which tobacco is grown is light, sandy and low in organic matter, it generally has a fairly low pH and fertility level. A soil test will determine the lime and fertilizer needs.

Although it is not a general practice to lime flue-cured tobacco, a pH of 5.5 to 5.8 is desirable and the soil should contain sufficient calcium and magnesium for the crop. If the pH or calcium and magnesium values are too low, then it may be advisable to apply a small amount of dolomite to correct this condition.

How much phosphorus and potassium should be applied will, of course, be determined by the amount of these nutrients found in the soil by a soil test.

Since nitrogen is not needed in large amounts to produce good quality tobacco and since it also leaches easily, it is necessary to apply about the same amount—a total of from 45 to not over 60 pounds—of nitrogen each year.

Complete flue-cured tobacco fertilizers generally used in Florida are 3-9-9, 3-9-12 and 4-8-12. They also contain 2% soluble magnesium and not more than 2% chlorine. It will usually require from 1,500 to 1,800 pounds per acre of 3-9-9 or 3-9-12 fertilizer—or its equivalent—to produce a good crop of flue-cured tobacco.

There are also several other fertilizers, containing only nitrogen and potash, which are used for side-dressing. They are 6-0-24, 8-0-24, 9-0-18 and 15-0-14.

A uniform supply of moisture throughout the growing season is necessary if best results are to be obtained from a tobacco crop.

Everyone knows that we cannot control the weather. However this can be partially overcome with irrigation.

For best results, a tobacco crop needs about 14 inches of water during the growing period. But since the average rainfall for the tobacco producing areas of Florida is only 12 inches during this period, many growers are irrigating to assure the crop of a sufficient supply of moisture when needed.

Insects and diseases also affect tobacco production. The grower must be constantly on the alert and use proper control measures if these problems are to be controlled.

The insects (hornworms, budworms, aphids, mole crickets and grasshoppers) and diseases (blue mold, black shank, bacterial wilt and fusarium wilt) can usually be controlled with a good dust or spray and rotation program.

Moreover, tobacco is susceptible to the root knot nematodes. Consequently fumigation, usually in the row, has almost become a "must" for tobacco production.

It is also a good practice to rotate tobacco with other crops which are less susceptible to nematode attack.

Constant care and supervision are required in tobacco production:

Since young plants are too delicate to withstand field conditions in the early stages of growth, the tiny tobacco seeds are sown—in late December or early January—in cold frames. These are covered with cheese cloth or plastic to protect the tender plants.

By late March, the seedlings are usually hardy enough to be transplanted into the fields. Then comes a 13 to 14 weeks growing period before harvesting or "priming" begins.

Usually it requires six to seven primings to completely harvest the crop. Priming starts with the removal of the lower leaves at the proper stage of maturity, and a progressive harvesting of higher leaves as each, in turn, becomes mature.

Curing of the tobacco, a very important step in maintaining quality, comes next:

First, the leaves are strung on a string and fastened to a stick four and one-half feet long. These are placed in barns artificially heated with fuel oil or gas burners.

A 90-100°F. temperature is maintained until the color of the leaf has turned from green to bright yellow. (This usually takes 24-40 hours under average conditions.) During the last few hours of yellowing, the temperature is raised to 100 to 120°F.

When the yellowing of the leaf is practically completed, ventilation is increased and the temperature raised to fix the color. This is done by increasing the temperature, at the rate of about three degrees per hour, until 135-140°F. is reached.

Ventilators are almost closed and the heat increased, at the rate of four or five degrees an hour, for the final drying step. The temperature of 170-175°F. is maintained until the tobacco stems are entirely dry.

Tobacco put into the barn on Monday is usually cured out by Friday night. Then it is removed from the barn and "bulked" down, without removing it from the sticks, for about two weeks' aging.

Final steps in the production of tobacco are separating it into grades and stacking the leaves in "sheets" for the warehouse. There, the familiar chant of the auctioneer signifies the end of a job well done.

(ACKNOWLEDGEMENT: This material was prepared for FLORIDA GROWER *and* RANCHER *by the Crops and Soils Club of the University of Florida. The photo shows just one phase of the club's tobacco exhibit in the 1958 Agricultural Fair.)*

Machinery MAINTENANCE

By S. E. DOWLING

Assistant Agricultural Engineer
Florida Agricultural Extension Service

THE TRACTOR carries its supply of fuel usually in one or two tanks depending upon whether it operates (starting as well as regular operation) on a single fuel or on two fuels (one especially for starting).

When the fuel tank, or tanks, are located above the level of the carburetor, the fuel flows by gravity; otherwise, a fuel pump is used which is usually driven by the camshaft. In a fuel pump constant pressure is maintained by a pulsating diaphragm operated and controlled by linkage which adjusts itself to pressure demands.

In order to prevent stoppage of the small jets used in the carburetor, tractors are equipped with a sediment bowl and fuel strainer. On some tractors two strainers are used, one at the carburetor and one at the sediment bowl.

The strainer and sediment bowl should be inspected from time to time and taken apart and cleaned. When removing the sediment bowl, there will be less danger of breaking the gasket if the bowl is given a twist. The bowl should be emptied and wiped clean, taking care not to leave lint in the bowl. The screen should be washed in fuel.

Dissolve Residues

Residues which cannot be removed by fuel should be dissolved in acetone. One of the best preventive measures to head off formation of such residues is to drain the entire fuel system when storing the tractor or power unit.

If a tractor is being used on a corn picker or hay baler where there is danger of leaves or hay collecting around the exhaust manifold and catching fire, a metal sediment bowl or one made of heat piping resistant glass should be used. A fire will crack a glass sediment bowl, and the fuel leaking could cause a big fire, which would do considerable damage to the tractor.

Safety is something that must be practiced at all times by tractor operators. The fuel system should be checked for leaks from time to time, and the engine always shut off before the fuel tank is filled. Filling the fuel tank at night and running the tractor until the carburetor is supplied with fresh fuel is one way to make sure that there will be volatile fuel for cold starting. Filling at night will also eliminate condensation problems.

* * *

Last year, Florida shipped 223,683 rail carlot equivalents of fresh fruits and vegetables to markets all over the country.

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THE NEW SOIL FUNGICIDE

For: **Beans** (Stem Rot, Root Rot, White Mold)
Lettuce (Leaf Drop, Bottom Rot)
Potatoes (Scab, Rhizoctonia)

Increase yields and profits

- permits earlier planting
- eliminates the cost of replanting
- gives earlier and more even maturity
- reduces amount of seed required for a good stand
- provides more efficient insect and weed control
- provides more efficient use of fertilizer and water
- increases yields through uniform stands of healthy plants

Get these Terraclor benefits

Long Residual—one application gives control until harvest (lettuce requires two applications for bottom rot).

Compatibility—Terraclor is compatible with most other pesticides and may be combined with other fungicides as Captan or Phygon where a disease complex exists.

Safe-To-Use—Terraclor is relatively non-toxic to crops and humans and is non-injurious to metal machinery or equipment.

Other Terraclor uses

Turf (Brown Patch)—Terraclor gives excellent control of Brown Patch and the longer residual action means fewer applications.

Ornamentals (Stem Rot, Root Rot, Crown Rot, Black Rot, Blight)—Terraclor increases yields of high quality flowers and bulbs, provides well developed root systems and promotes uniform and timely flowering.

For Bacterial Leaf Spot of Tomatoes and Peppers
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the new liquid antibiotic

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Write for fully descriptive literature on Terraclor and Phytomycin.

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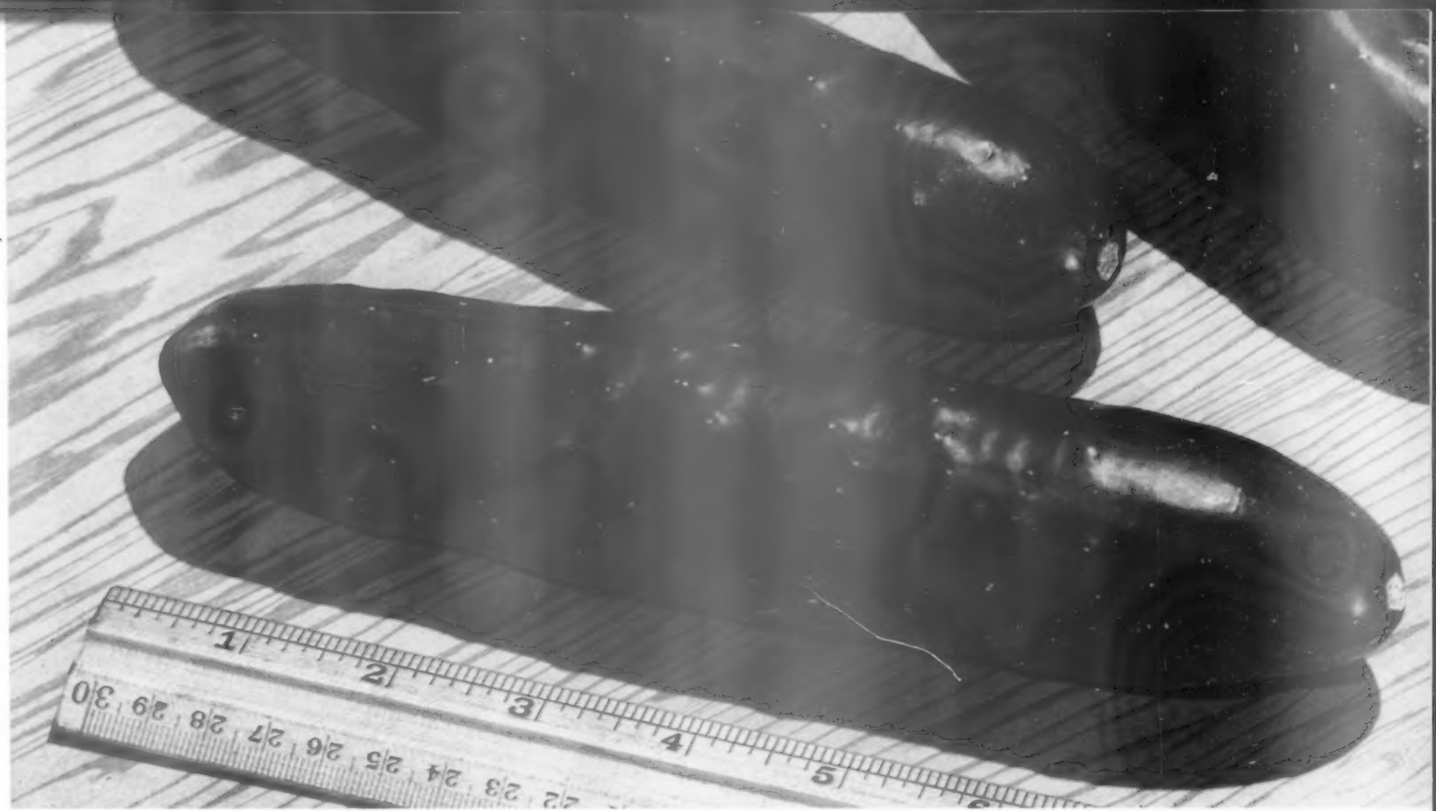

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This improved strain was selected from regular Homestead by Ferry-Morse breeders for larger fruit and more productive, compact plants. Highly resistant to Fusarium Wilt; maintains excellent fruit size throughout season. A superior green-wrap shipper with thick, firm walls even at the blossom end. At your Ferry-Morse dealer's.

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Movable Gardens

PRETTY AND PORTABLE is this flower garden grown by Mrs. R. S. Anderson, Tampa.

By JEAN JACQUES

MOVABLE GARDENS! Imagine the astonishment of past generations who might well have exclaimed:

"Ah-Oh! Moveable gardens? What next!"

However the movable garden has come to stay—not for long in the same place perhaps, but certainly as an institution.

Seemingly, the majority of home owners (also many who rent) are more content if they have even a small vegetable garden and a few colorful flowers to make the place homey and cheerful.

Yet in these modern times, many people—from necessity or desire—move from place to place more or less frequently. But nowadays they may go ahead with their gardening, secure in the thought that when and if they *do* leave, their garden can go right along with them.

TOMATOES—one plant to a basket—are shown here as they appeared three weeks after transplanting. Yield: about 34 pounds per plant.

For instance, tomatoes can be grown successfully in movable gardens. Bean hampers filled with wood shavings comprise the tomato "patch."

Generally speaking, one or two plants to a hamper should yield at least a dozen pounds of tomatoes per plant. The Homestead is the most popular variety. One plant alone has been known to produce 200 tomatoes.

After placement in the shavings-filled bean hamper, the young plant is fed with a nutrient solution without soil. Fish poles connected with chicken wire are recommended to give tomato vines the support they need.

Cucumbers and strawberries grown this way in hampers, or in bushel baskets, are highly satisfactory. Sweet potatoes and tomatoes really need the depth of hampers because they grow to the bottom and push out the sides.

It is well to put the hampers into a receptacle so that he solution will not be wasted. Growing things this way saves space and makes garden entirely portable.

Mrs. R. S. Anderson of Tampa is one of those who feel that a garden is necessary. Her husband is a heavy construction foreman, who sometimes must travel.

When a stay in Texas was necessitated by Mr. Anderson's work, the couple solved their problem via a trailer and a portable garden. They have moved several times since then, always taking their garden along.

In fact, the first time the writer met the Andersons they were making ready to move that afternoon. Although the move was local instead of long-distance, there was still no traditional moving-day confusion.

A truck stood ready to transport the garden. An imposing lot of flowers and ornamentals—some of which had been dug up out of the ground, container and all—was ready. The facility with which they were moved was amazing.

One thing is certain: wherever the Anderson are,, there is sure to be a fine showing of vegetables, plants, flowers, succulents and novelties. The last-named, Mr. Anderson's hobby, are in the experimental stage.

The writer too has experienced one moving, taking a small garden along. It included some vegetables, papayas, some unusual plants in the experimental stage, zinnias, English violets, pansies, caladiums and succulents.

All of the above were in containers of one kind or another. Some of these containers were tin cans, buried flush to the ground's surface.

Beans planted in hampers blossom about a month after the seed has been placed in the shavings. And one hamper gardener harvested a cucumber measuring seven and one-half inches long.

Gardening provides relaxation from the tensions of everyday life, especially for the professionals and those engaged in work of arduous mental strain. There is something incomprehensible and profound when one observes one small seed develop into a great plant.

There are so many lessons to learn from nature and great pleasure derived from its study—such as the marvel of a night-blooming Cereus as it opens ever gradually further and further until full blown, and then all its beauty lasting but a few hours.

Now gardeners, the barriers are gone. Plant to your heart's content. And when your turn comes to move, your garden can go along with you; your movable, modernistic garden.

Oil-Sprayed Eggs Retain Quality Longer, Tests Show

MANY FARMERS now averaging only 65 to 70% grade A eggs can easily boost this percentage to 85 or more by spraying the eggs with an egg-processing oil.

All the farmer needs to do is to place the eggs, small-end-down, in the filler flats and spray them with a hand-operated sprayer. The processing oil is also available in pressurized containers.

So reports poultry scientist Milo Swanson of the University of Minnesota. He says that this simple and sanitary spraying process costs less than a nickel for each 30-dozen case of eggs.

In recent tests, oil-sprayed eggs were still Grade A after 10 days' storage at 70 to 75 degree room temperature. Unsprayed eggs dropped to Grade B after the same storage period.

Dipping eggs in oil is a common practice among egg-processing plants. But only recently has such shell treatment been considered for use on farms for eggs being marketed for immediate consumption. The simple spray process, Dr. Swanson says, has made this possible at the farm where the treatment is much more effective than when delayed until the eggs reach the first or second handler.

There has not yet been any indication of consumer complaint about oil-sprayed eggs. However the poultry scientist recommends that any farmer thinking of oiling his eggs first check with his local buyer.

"Home permanent!"

Maybe the reason some people get lost in thought is that it is unfamiliar territory to them.

Edward Bland (right) stops in to talk tires with his Firestone Dealer, Edgar Pritchett.

"AROUND HERE TRACTION'S THE BIG THING —AND FIRESTONES DON'T BOG DOWN"

That's the experience of Mr. Edward Bland on the 20,000 acres he manages for Haley Farms near Albany, Georgia

Folks over southwest Georgia way all know Haley Farms. They bring in really big crops of cotton, peanuts and pecans—in addition to raising some fine cattle. According to Ed Bland, the General Manager, all this requires the work of 65 tractors—and they're all running on Firestone tires!

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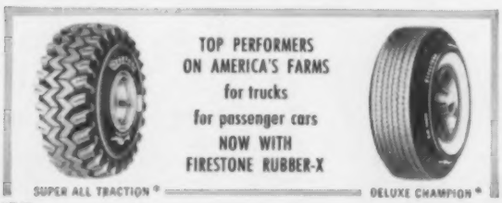

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Where Is This Florida Poultry Business Heading?

By JULIAN S. MOORE
Extension Poultryman

FLORIDA poultrymen are headed for greater competition as the industry grows, not only within but from without the state as well. The time is fast approaching when *all* grade "A" large eggs will sell for about the same price, regardless of the source of origin.

A quality product in sufficient quantity to attract those buyers now purchasing out-of-state eggs can be part of the answer for Florida poultrymen.

But, first, let us consider the three factors which have and are still helping change the poultry industry. These factors are research, automation, and integration.

Evidence of some of the changes began to appear in the early 1930's. Four developments can be cited:

(1) With the greater emphasis on flocks of commercial size has come the increased use of the light breeds in the laying flock.

(2) Through research, feeding, breeding and management, chickens were so improved that more eggs were produced per layer. Consequently, fewer layers were needed to supply the eggs that the market demanded.

(3) As the technique of sexing chicks became perfected, only the female chicks were used by the hatcheries.

(4) Chicken broilers, as a commercial enterprise, came into the picture.

Eighty-eight percent of all farms in the United States kept chickens in 1910. By 1954, only 71% of the farms reported keeping chickens.

No exact records are available for the years since 1954. But it is known that the number of farms reporting chickens is decreasing.

From 1950 to 1954, according to the 1954 census, almost a million farm flocks of 200 birds or less disappeared from the scene. During the same period, the number of large commercial flocks—of 3,200 birds or more—increased 124.6%. This trend is continuing.

According to the 1940 census, there were 2,562 poultry farms in Florida. In 1945, the number of poultry farms had increased to 2,622. But by 1950, the number had decreased to 1,962—and the latest census figures we have (1954) show only 1,890 poultry farms.

Between 1940 and 1954, the total number of Florida poultry farms declined by 672 . . . or about 25% of the farms.

Most up-to-date estimate as to the number of poultry farms in the state is the List of Poultry and/or Egg Producers registered with the Florida Department of Agriculture. This count shows 1,747 farms.

These facts and figures bring us pretty well up-to-date. With them, we can see where the Florida poultry industry came from, and where it is at the present time.

Now, the question is: where is it heading?

In getting up this material, I wrote 15 county agents in the state's leading poultry-producing areas. Their answers to my questions are summarized below.

Changes in size of farms: The number of farm flocks in Florida have decreased while the size of the flocks has increased. One agent reported:

"Five years ago, the largest flock in this county had 7,500 birds. Today, the largest flock approaches 45,000 birds."

Unauthoritative reports reveal that there are better than 40 farms on which there are more than 10,000 layers—and many of these are getting larger each year. As a matter of fact, there are some farms approaching 100,000 birds.

Last year, 601 million eggs were produced in Florida. During 1958, these figures will be increased by about 84 million eggs—or more than 12%.

Breeds or strains being used: Practically all of the laying flocks are of an egg-type strain.

Most of these birds are purchased as baby chicks or as started pullets from hatcheries here in the state. There will be a decided increase in the number of started pullets purchased as flocks increase in size.

Purchasing of started pullets, however, can present a headache unless the grower of the pullets practices—at all times—the best of management practices.

There are both birds in cages and birds on the floor. Several county agents indicate that with cages, fly control is a serious problem and that some operators are changing from cages to the floor.

Both floor and cage flocks will continue—with an increase in the floor birds and a decrease in the cage birds.

Feeding practices: Most flocks are being fed an all-mash ration, as compared to just a few years ago when mash and grain was the standard method of feeding. This trend will continue.

Housing changes: Houses being built today and old ones being remodeled are being constructed with the idea of (1) economy of construction, (2) comfort for the birds and the operator, and (3) so that automatic equipment (such as bulk bins for the handling of feed and mechanical feeders and waterers) can be installed.

All of these are being used to cut labor costs to the minimum. This applies to houses for both laying flocks and broilers. With the mechanical equipment now being installed, the number of birds that one man can manage successfully has been doubled within the last few years.

The controlling factor today is not the feeding and management of the birds themselves. Instead, it is the amount of time that must be spent in gathering, cooling, cleaning, packing, and marketing the eggs.

Much has happened in broiler production in 24 short years, from 1934 to 1958. A great deal of this progress has been made in the last five to 10 years.

As late as 1950 here in Florida, Florida broilers were priced at about three cents over the Georgia price. What is it today? What has happened and is happening to broiler production in Florida?

Except for three or four concentrated broiler areas in the state (and these are located adjacent to large processing plants), a part of the Florida broiler market has been lost to Georgia-produced birds. Today, not only in Florida but in most of the area where broilers are produced, they are being grown under contract.

The broiler producer, in most instances, is a hired hand—producing broilers for either a feed company or a processing plant. There are but few independent broiler growers left.

Will the same thing happen to the egg producer? We are hearing more and more about integration within the field of market egg production.

However, there's one bright spot: Broiler production was easier to integrate than will be the case with the egg producer.

In the first place, it requires only about 10 weeks to complete growing out a flock of broilers. With egg production, it requires 18 to 20 months to complete the cycle.

Moreover, the man who can do a fair job with broilers over a 10-week period may not be able to do the same job with layers over this 18 to 20 month period. The money necessary to finance layers will be tied up over quite a long period of time—which will tend to slow down as rapid a development as took place with broilers.

Even with these disadvantages, integration is taking place with the egg industry. And some of it is already being done here in Florida.

The man who continues to operate his farm in a haphazard manner, who does not keep up-to-date, who fails to keep records, and who fails to produce and market a quality product is likely to get hurt.

Insofar as egg prices were concerned, the Florida egg producer has—in the past—had some advantage. But the spread in prices between quality nearby-produced eggs and quality shipped eggs is narrowing.

And this spread in prices can disappear. Grade A large eggs, regardless of source of production, should bring about the same price. The housewife is not nearly so concerned as to the source of eggs as she is to quality.

The poultryman who (1) keeps up with the research work that is being done with reference to breeding and feeding, (2) who can put these new findings into practice, (3) who can install the necessary mechanical equipment in order to care for the maximum number of birds with the minimum amount of labor, (4) who practices good management at all times, (5) who keeps a complete set of records on his entire operation, and (6) who markets a high quality product should not have too much to worry about . . . at least in the near future.

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New 300 series grove harrow with specially curved blades made for conditions in Florida groves is now available from Allis-Chalmers dealers in 10 and 14-foot sizes. Add new capacity to your discing plus the versatility and mobility that transport wheels bring. A companion partner to the D-14 Orchard Tractor.

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2 **TWO-CLUTCH POWER CONTROL** gives you live PTO operation. You can keep PTO-driven spray rigs operating at full capacity, regardless of forward motion. PTO gets full reserve of POWER-CRATER engine power to meet any extra-heavy PTO job requirements.

3 **TRACTION BOOSTER** system keeps you moving where others bog down. Weight is transferred automatically to tractor's rear wheels as needed for extra traction.

4 **SNAP-COUPLER** hitch saves time so precious in certain phases of orchard work. For fast job change-over, back into the implement . . . SNAP! CLICK! . . . and away you go.

See your Allis-Chalmers dealer now for the sweetest power package in the orchard market. He has a full selection of offset disc harrows, tandem discs and other implements for orchard operation. Stop in today.

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Pellets for Steers

There seems to be some advantage in pelleting a barley-oats grain mixture for beef steers, according to a recent University of Minnesota report.

In tests there, eight steers fed pelleted grain rations of 70% barley and 30% oats outgained and returned $5.40 more profit per head than steers fed the same mixture in non-pelleted form.

Why Gamble with your crops— and profits

Magnesium deficiency in citrus, and vegetable crops as well, can be most costly —both in quality and quantity of yield. For citrus, why not follow the recommendations of the Florida Citrus Experiment Station at Lake Alfred which stress the need for large applications of magnesium for citrus in soluble form and state that it is usually applied as a sulphate.

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Citrus Insect Control for September 1958

By
W. L. THOMPSON, R. M. PRATT, and R. B. JOHNSON*
Florida Citrus Experiment Station, Lake Alfred

PURPLE SCALE infestations reached a peak at the end of July at the highest level in the eight years of record. There was a sharp reduction in most groves in August. A slowly increasing trend will begin in September, but the general level of activity will be low.

Red scale infestations were still low in July, but the number of infested groves has been increasing. The population will still be low in September, but will increase rapidly in October, and infestations will be heavy in many groves in October and November.

Purple mite infestations will increase slowly in September, but will be low in most groves.

Rust mite infestations will start increasing in September, especially in groves that were sprayed or dusted with sulfur during the summer. The general level will remain low, but there will be an increase in October.

Texas citrus mites are likely to become numerous in some groves in September.

Spray Program

The summer scalicide application has been made, so it is now time to inspect the groves for scale infestations to determine whether any of them will need a second scalicide. Close attention should be made to groves sprayed in June and early July and especially groves that were heavily infested when sprayed regardless of when the application was made. Red scale infestations are most likely to be a problem in groves sprayed before mid-July. Red scale infestations are not uniform, that is, some trees or parts of trees may be heavily infested while other trees appear to have a light infestation. Even though the infestation is spotted, the whole grove should be sprayed because an apparent light infestation in September can develop into a heavy one by November or December.

Tangerines and early varieties of oranges and grapefruit should be inspected for purple and chaff scale on the fruit. Both species of scale cause an injury to the peel, called green spots, that does not degreen in the coloring room.

Scale Control: Either parathion or malathion is recommended because neither of these materials affect soluble solids in the juice or affect degreening of fruit. Use 1 to 1.7 pounds of 15 percent parathion, or 3 to 5 pounds of 25 percent malathion, or their equivalent in other forms, per 100 gallons. The lower dosage of either parathion or malathion is for light infestations, but if there is any doubt, use the higher dosage. A very thorough coverage is essential for good control because the fruit is large and difficult to cover with the spray.

An oil spray applied in September will definitely retard degreening and will very likely have a depressing effect on soluble solids in the juice. If an oil was applied in the summer and is followed by another application in September, a very serious depressing effect on solids is likely to result and a good job of degreening is almost impossible, even with an excessive number of hours in the coloring room. Tangerines should very definitely not be sprayed with oil during the fall months.

Rust Mite Control: Groves should be sprayed for rust mite when 10 to 20 percent of the fruit is infested where either sulfur or Chlorobenzilate was used in the last spray. The need to respray immediately when 10 to 20 percent of the fruit is infested with rust mite may not be so critical where zineb was used, because rust mite infestations usually do not recover from a zineb spray as rapidly as after applications of sulfur or Chlorobenzilate. It is not necessary to immediately respray groves previously treated with zineb where only an occasional rust mite or two are found on the fruit. Such groves should be checked frequently and retreated when rust mite starts to increase. On the other hand, always respray immediately where rust mite is numerous on 10 to 20 percent of the fruit.

In some zineb-sprayed groves, rust mite may become numerous only on the new flush of foliage. It is not necessary to control these mites before fall, unless they are also numerous on the fruit.

SCALE AND MITE ACTIVITY BY DISTRICTS*

District	*Purple Scale*	*Red Scale*	*Purple Mite*	*Rust Mite on leaves*	*Rust Mite on fruit*
West Coast	2.97	4.50	.67	1.66	2.00
Indian River	3.86	3.11	.12	1.01	1.60
Upper East Coast	3.92	0	1.67	2.34	1.40
Gainesville	2.67	.50	-.75	.25	0
Orlando	3.63	.40	.37	.50	1.33
Brooksville	3.88	3.26	.50	.50	.34
Ridge	4.94	3.33	.69	1.36	1.81
Bartow	5.09	1.15	.14	.42	1.00
State Average	3.94	3.20	.48	1.09	1.32
Last Year	3.37	3.00	.47	1.27	1.50

**Third week in August. Activity is computed from populations, amount of hatching of scales, and number of groves with increasing or decreasing infestations. Activity is considered high if above 4.0 for purple scale, 3.0 for red scale, and 1.5 for mites.

Zineb at ½ pound per 100 gallons is the most effective material. Chlorobenzilate at ½ pound or ½ pint per 100 gallons is less effective than zineb, but slightly better than sulfur. Both zineb and Chlorobenzilate are contact sprays and thorough application is necessary for good control. Wettable sulfur at 10 pounds per 100 gallons or a sulfur dust may also be used. However, a wettable sulfur spray is preferred to sulfur dust for heavy infestations, and will also result in better initial control than zineb and Chlorobenzilate where complete coverage of fruit cannot be obtained.

Where there are heavy populations of rust mite and thorough coverage is difficult or impossible, the mixture of ½ pound of zineb and 5 pounds of wettable sulfur per 100 gallons should give a good clean-up and longer control than sulfur alone.

Zineb, Chlorobenzilate, and sulfur can all be used with parathion or malathion.

Purple Mite and Texas Citrus Mite Control: Since purple mite and Texas citrus mite infestations may be fairly low in September, control is not recommended unless a heavy infestation develops during a period of dry weather.

If control is necessary, there are several materials that can be used. The most effective is Tedion 25% wettable powder which is used at ½ pound per 100 gallons. Tedion is slow to bring mites under control, however, and should not be used on high populations unless supplemented with a quick killer like TEPP, parathion, or Chlorobenzilate. Tedion should not be used on trees bearing fruit unless the material used is expressly sold for that purpose. Other good miticides are Trithion at ½ pint per 100 gallons, Kelthane at 1½ pounds or pints, and Systox at 1 pint.

Details of spray schedules and the various materials used will be found in the "Better Fruit Program" and this should be consulted to determine which materials may or may not be combined. For further information, consult the Citrus Experiment Station at Lake Alfred or Fort Pierce.

*Written August 21, 1958. Reports of surveys by Harold Holtsberg, Fort Pierce; J. W. Davis, Tavares; K. G. Townsend, Tampa; T. B. Hallam, Avon Park; and L. M. Sutton, Lake Alfred.

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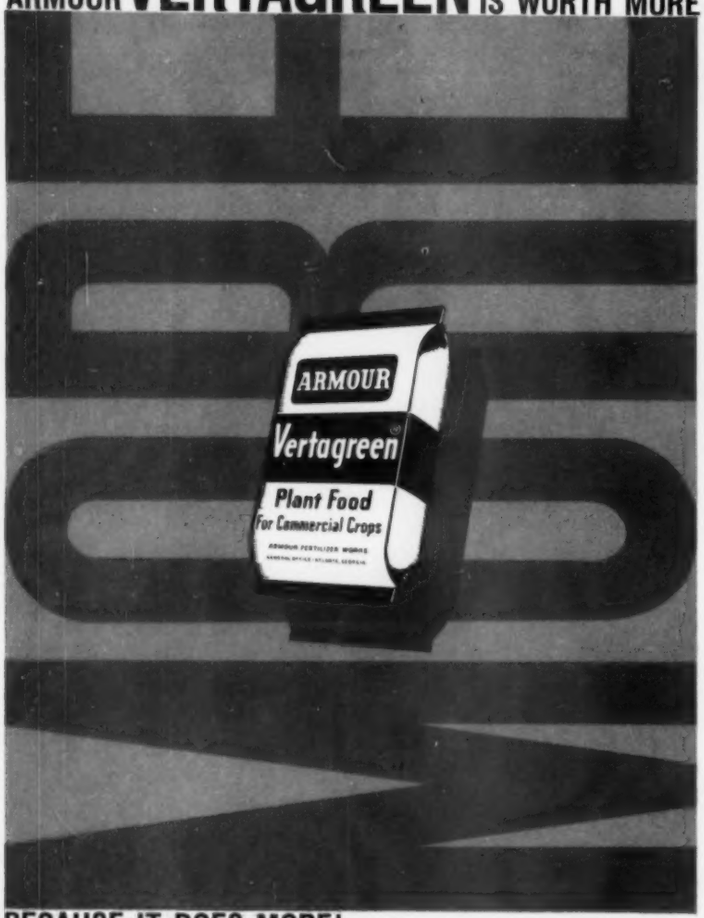

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RAYMOND TURNER (left) new president of the Agricultural Division of the Miami-Dade County Chamber of Commerce, awarding two scholarship certificates to high school students, Ondina Dale and Patricia Rethorst. James Griffin, (right) executive secretary of the Florida Nurserymen & Growers Association began his college education with a similar scholarship awarded by the State Federation of Garden Clubs.

College Scholarships Given Students by Dade County Group

The Agricultural Division of the Miami-Dade County Chamber of Commerce recently awarded scholarship certificates to two deserving high school students who will continue their educational career in agriculture or related fields. This is the first year that the Agricultural Division, which was formed in 1954, has set aside funds for this purpose. New president Raymond Turner says that the organization has plans for continuing these awards each year and possibly increasing the number as soon as additional funds are available.

The scholarships are awarded to students having a definite interest in and a desire to continue work in agriculture or related fields such as home economics, food technology, agricultural marketing, etc.

Applicants must be residents or students of Dade County, and must have given promise of ability to do high grade college work and must have demonstrated evidence of leadership ability while in high school.

Although either boys or girls are eligible, both of this year's winners were girls who have achieved outstanding recognition both locally and nationally.

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'Food for Thought' Is FFVA Convention Theme

"Food for Thought" will be the theme of the Florida Fruit and Vegetable Association's 15th annual convention this month.

This outstanding annual session of Florida growers will be held September 24-26 at the Hotel Fontainebleau, Miami Beach. J. P. Harllee, Jr. of Palmetto will be convention chairman.

Keynote speaker will be William J. Klein, vice president and director of sales promotion and marketing of the Tractor Group, Allis-Chalmers Manufacturing Company of Milwaukee, Wisconsin. He will speak on the convention theme.

"Mr. Klein is a noted speaker and his background is of particular interest to growers and shippers of Florida fruits and vegetables," Harllee says. "Members and guests attending our coming convention are sure to receive a stimulating message from him."

Welcoming the FFVA will be the Honorable Dante B. Fascell of Miami, U. S. Congressman from Florida's Fourth Congressional District.

Representative Thomas D. (Tom) Beasley, speaker designate of the State House of Representatives, will present the FFVA Research Awards to three outstanding agricultural scientists. A resident of Defuniak Springs, Representative Beasley is a farmer, cattleman and veteran of eight sessions in the legislature.

"These awards are made for practical research contributions to Florida's vegetable and sub-tropical fruit industries," explains convention chairman Harllee. He adds: "Because of broad eligibility requirements, the awards are open to all individuals engaged in any type of scientific research. This includes persons working for governmental agencies, private universities, companies and institutions, or those who are self-employed."

Last year, the awards went to Dr. R. V. Allison, Belle Glade; Dr. J. R. Christie, Gainesville; Dr. R. W. Ruprecht, Sanford; Dr. J. M. Walter, Bradenton, and J. R. Winston, Orlando.

Cottonseed Meal in Swine Rations

Excellent results are now possible with cottonseed meal in swine rations, according to Texas Agricultural Experiment Station tests.

Cottonseed meal can be used safely in complete feed mixtures or in protein supplements for swine, the researchers say, because of newer methods available for processing and evaluating the protein quality and gossypol content.

Pigs will make good gains when the complete ration for hogs contains not more than 0.01% free gossypol. This means cottonseed meals containing 0.04% or less free gossypol are safe for swine feeding.

Plastic Covers for Berries

Covering strawberry plants with clear plastic in the spring can result in berries ripening a week earlier than non-covered plants.

Vine growth of the covered plants is larger and faster. But some of the berries are small and cat-faced, reports E. M. Emmert, University of Kentucky horticulturist.

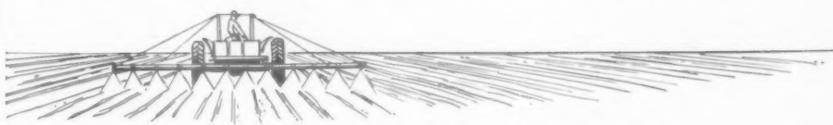
One advantage of the clear plastic row covering is that it keeps out excess rain and prevents fruit-rot at harvest time. Thus large, high-quality early berries produced under plastic and free from rain damage would pay in years of heavy rainfall, Emmert says.

In dry years, the plastic would conserve moisture and help produce better fruit than otherwise.

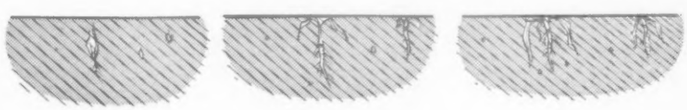
CUT HAND-WEEDING COSTS!

New Vegadex® weed-killing "blanket" can save you $20 to $90 per acre in vegetable crops!

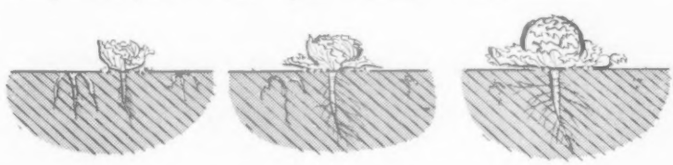
HOW VEGADEX KILLS WEEDS FOR YOU



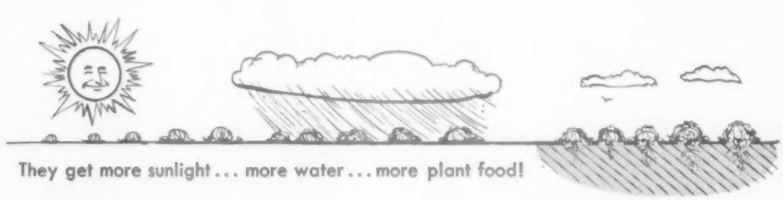
Spray on Vegadex when you plant. Invisible chemical "blanket" covers soil.



Grassy weeds sprout... touch Vegadex "blanket"... wither and die.



Your vegetables grow through unharmed with few weeds to fight.



They get more sunlight... more water... more plant food!

RESULT: You get bigger harvests... save $20 to $90 per acre on hand-weeding labor costs. (*A fact proved by commercial growers in their own fields.*)

This commercial grower band-sprayed Vegadex at planting. See how weeds smother untreated celery, at right, while treated rows, at left, grow clean, vigorous. Remember, you can spray Vegadex every time you plant—it won't build up in your soil.

Florida Growers...

VEGADEX CONTROLS—purslane, pigweed, henbit (blueweed), annual bluegrass, bull grass (goose grass), crab grass, foxtails, barnyard grass, chickweed, lambsquarter.

VEGADEX IS SAFE FOR—celery, lettuce, broccoli, Brussels sprouts, cabbage, cauliflower, sweet corn, collards, kale, mustard greens, spinach, turnip greens, hanover salad, snap beans, lima beans, soybeans, field corn, garden beets.

Before you plant your next crop, see the Monsanto Farm Chemicals Dealer who displays this sign. He'll show you how spray-weeding with Vegadex eliminates nearly *all* costly hand weeding in your vegetable crops.

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FARM CHEMICALS

Social Security:

Farmer Disability Provisions

WHAT can farm people expect from the disability provisions of the social security program?

This is a particularly pertinent question since many farmers have heard that, effective as of July of last year, monthly benefit payments have been made to certain disabled workers.

Farming is certainly an occupation that is hazardous to life and limb. So it's only natural to assume that farmers are covered by the disability provisions.

But, because of the rather severe eligibility requirements, it isn't likely that many farmers will qualify for disability benefits in the near future. Right now, they are more likely to benefit from the provision for paying benefits to disabled children over the age of 18.

Most people know that social security benefits are paid to children under age 18 of insured farm workers and insured farm operators who have reached age 65 and have retired or have died.

It is not so well known, however, that an auxiliary benefit is also paid if the beneficiary has an adult child that has been disabled since before the age of 18 and is dependent upon him.

Leaving out the technicalities, the eligibility requirements a farmer—or any other working person—must meet to get social security disability benefit boil down to the following:

1. The individual must have been under social security one and one-half years out of the three years immediately preceding the disability.

2. Furthermore, he must also have been under social security five out of the 10 years preceding his disability.

3. He must be so severely disabled that he cannot engage in any substantial gainful work, and the disability must be expected to continue indefinitely. He is not entitled simply because he can no longer do the work he used to do. The disability must also be one that is medically determinable.

4. The disability must have lasted for six months before any payment can be made.

5. He must be at least 50 years of age and he must file an application.

Actual payment of cash benefits to disabled people age 50 or over was provided for in 1956. Earlier, in 1954, a law was passed which provided for freezing the benefit rights of disabled people who had not reached retirement age.

Social security benefits are based on average earnings. If a person is disabled for a time during his working lifetime and has no earnings during that period, his average will be reduced—and so will his benefits.

The 1954 "disability freeze" provided that periods of total and permanent disability would not be reckoned into this average if the person met certain other qualifications.

Except that the person need not be 50 years of age, the aforementioned qualifications are substantially the same as those listed for cash disability benefits.

For example: A person who had worked steadily from the age of 20 to 30 and then became disabled, could have his earnings record frozen at that time. But he would not actually start getting monthly benefit payments until he reached age 50.

If a person is drawing some other disability pension from the federal government or a federal or state workmen's compensation benefit, the amount of that benefit will be subtracted from any social security disability benefits payable.

Eligibility for a veteran's disability payment or a finding of disability under some other public or private system does not necessarily mean that the person will qualify for the social security disability benefit payments. The social security requirements are much stricter than those under most other plans.

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For Increased Solids

and advanced maturity, include "Na-Churs" as a 1% solution to trees about two months before normal picking date. Foliar applications of phosphoric acid have been shown to increase uptake and utilization of potash. The combination of the two—phosphorus and potash—is needed within the fruit to build solids and advance maturity.

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Case-o-matic

Exactly what is Case-o-matic Drive?

It is a skillfully engineered "marriage" of an exceptionally efficient torque converter and a standard multiple-geared transmission *plus* a conventional direct drive.

Is Case-o-matic Drive torque converter fully automatic?

Yes. It is an improvement over the automatic transmission in the latest model automobile. With Case-o-matic Drive, you have a wide choice of working ranges . . . eight forward ranges in the Case-o-matic Drive 800 tractor . . . four or eight in the Case-o-matic Drive 400 and 600 tractors. In any working range selected, Case-o-matic Drive *senses* the load . . . increases pull-power as needed . . . instantly, precisely and automatically without clutching, shifting or stalling.

Does Case-o-matic Drive torque converter cost more to operate?

No. Because the torque converter operates automatically, travel speed and working load are always perfectly balanced for greatest possible work output per hour, per day, per gallon of fuel. The engine operates in its most efficient range regardless of load because Case-o-matic Drive adjusts instantly for extra pull-power when it's needed. You never "gun" the engine or inject slugs of raw gas into the cylinders. Result—no oil dilution, no cylinder scoring, minimum carbon deposits—and the engine makes the most efficient use of every gallon of fuel.

What are the specific advantages of the Case-o-matic Drive torque converter?

A Case-o-matic Drive tractor lets you operate in a higher working range than with a conventional-transmission tractor. This greater efficiency is possible because Case-o-matic Drive automatically adjusts pull-power to the load. As the load increases, pull-power increases up to 100%. Because there is no time-wasting down-shifting, up-shifting or stalling you can plow up to 15% more in a day. Accelerator and brakes give you precise control of both forward and rearward movement.

Can a Case-o-matic Drive tractor be operated in torque converter continuously?

Yes. After you select the proper working range, you can stay in torque converter as long as you like. Case-o-matic Drive is engineered and built for long, hard continuous service. In fact, Case gives you a *double warranty* on the Case-o-matic Drive . . . a warranty for twice as long as the warranty on conventional transmissions in standard tractors.

Are clutch replacements necessary on a Case-o-matic Drive tractor?

No. The hydraulically actuated clutches in Case-o-matic Drive are designed to last the life of the tractor. They are self-adjusting. There is no slipping, no burning, no occasion for excessive wear and consequent clutch replacement. Shock loads are absorbed, thus reducing wear on bearings, shafts and gears. Power-train maintenance is kept to a minimum. Years are added to tractor life.

Does Case-o-matic Drive reduce wheel slippage or spinning?

Yes. Depending on the load, up to 16% tire slippage is usually considered unavoidable with conventional-drive tractors. This wasteful, tire-wearing, soil-tearing hazard is measurably minimized with Case-o-matic Drive. Torque is transmitted so smoothly to drive wheels you move out evenly and surely from a dead stop. Minutes wasted slipping the clutch or down-shifting to get started in heavy going are used instead to cover more ground, get more work done.

Is Case-o-matic Drive safer to operate in the field?

Yes. The speed range is selected and the clutch fully engaged *before* the tractor is put in motion. Then, a tiptoe touch of the accelerator and the tractor is rolling smoothly and safely. There is no dangerous jerking or bucking. In tight spots you move as slowly as you want, avoiding risk of damage to machinery.

Is Case-o-matic Drive safer to operate on the highway?

Yes. With Case-o-matic Drive you have the tractor under complete control during starting and stopping, regardless of the load, by merely using brakes and accelerator. There is no danger of stalling the engine at busy intersections, railroad crossings or on grades.

Is Case-o-matic Drive easier and safer on short headlands, on row-end turnings and for close-quarter chore work in barns and yards?

Yes. At headlands and row-ends you can slow to a crawl without clutching or shifting, by merely using the brakes. Your hands are free for steering and hydraulic control of implements. With Case-o-matic Drive you can "feel" your way, creep smoothly in barns, feedlots and through narrow doors and gates by using either brakes or accelerator.

Is it easy to change from Case-o-matic torque converter drive to direct drive?

Yes. All it takes is a flick of your finger. Just flip a handy little lever under the steering wheel. You do it on the move, at any speed, without clutching or shifting. This "locks up" the torque converter so the engine is connected directly to the transmission as it is in any conventional tractor.

Does Cas more effic opera tions

Yes. A Case- indepe dent The P O sh engine ywh depend nt of torque conve variati ns in load ha e lit so your PTO the dri en n efficien y.

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Yes. A Case operati g co ern car with have co nple acceler tor a fresher, mor activiti s ar end of day

We l op have be that yo unde st Ca p c b

Only Case-o-matic DRIVE gives you all 3

No other manufacturer can offer the combination of features available in a Case-o-matic Drive tractor. This revolutionary new drive offers not only a torque converter that is fully automatic, but gives you the added advantage of a direct drive for light loads—plus a straight-thru independent power take-off with priority on engine power. No other tractor offers you this great 3-in-1 combination.

1 FULLY-AUTOMATIC TORQUE CONVER FOR DOUBLE THE PULL-POWER

Revolutionary Case-o-matic Drive senses the load and increases torque up to instantly, precisely, automatically. Whether you're plowing tough sod . . . low . . . rank, stubborn crop growth . . . you pull through smoothly without clutch or stalling. You operate in a higher working range to increase output, cut ope

...have heard...
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...C DRIVE

...oes Case-o-matic Drive give ...ore efficient power take-off ...pera...ions?

...s. A Case-o-matic Drive tractor gives the ...deper...dent PTO priority on engine power. ...he P...O shaft is attached directly to the ...gine ...lywheel and operates completely in- ...pend...nt of the torque converter. When in ...rque ...converter at a fixed throttle setting, ...riatio...ns in travel speed due to varying ...ad ha...ve little or no effect on engine RPM, ...your PTO speed remains up, always keeps ...e dri...en machine operating at maximum ...ficien...y.

...oes Case-o-matic Drive ...educ...e operator fatigue?

...s. A Case-o-matic Drive tractor has the ...erati...g convenience and control of a mod- ...n car with an automatic transmission. You ...ve co...mplete control of the tractor with the ...celera...tor and brakes. As a result, you feel ...sher, more willing and able to enjoy family ...tiviti...s and community functions at the ...d of ... day in the field.

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Case-o-matic DRIVE 800

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2 DIRECT DRIVE FOR LIGHT-DRAFT LOADS

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3 STRAIGHT-THRU PTO FOR ENGINE-POWER PRIORITY

Case-o-matic Drive gives you non-stop PTO power priority straight through from tractor engine to driven machine. Whether you slow down for a heavy windrow, or soft or rough ground . . . or move faster through a thin spot . . . PTO speed stays up. This means more bales, more forage, more grain—more work done per hour—per day—per dollar of investment.

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124 MODELS

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300 3-Plow Tractor; diesel, gasoline, LP-gas, distillate fuel; 4-speed 12-speed tripl-range and shuttle transmissions; standard 4-wheel, row crop with single or dual wheels, adjustable front axles.

400 3+ Plow Tractor with Case-o-matic Drive; gasoline or LP-gas fuels; 4 or 8 working ranges, shuttle; standard 4-wheel, dual wheels, adjustable front axles.

500 3-4 Plow Tractor; gasoline, LP-gas; 4-speed, 12-speed tripl-range, shuttle transmissions; standard 4-wheel, row crop with single or dual wheels, adjustable front axles; complete hydraulics.

600 4-Plow Tractor with Case-o-matic Drive; gasoline, LP-gas; 4 or 8 working ranges, shuttle; standard 4-wheel, row crop with single or dual wheels, adjustable front axles.

700 4-5 Plow Tractor; diesel, gasoline, LP-gas, distillate fuel; 8-speed dual-range transmission; standard 4-wheel, row crop with single or dual wheels, adjustable front axle; duo-control hydraulics and Eagle-Hitch.

800 5-Plow Tractor with Case-o-matic Drive; diesel, gasoline, LP-gas, distillate fuel; 8 power ranges; standard 4-wheel, row crop with single or dual front wheels, adjustable front axles.

900 5-6 Plow Tractor; diesel or LP-gas; 6 forward speeds; standard 4-wheel; power steering and duo-control hydraulics; deluxe Health Ride seat.

310 Hi-torque 42 gross horsepower Case engine with 3-speed transmission. Hydraulics, PTO, belt pulley, toolbar-dozer combination and 3-point Snap-lock Hitch.

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Practical Pointers on Growing Lupine

FLORIDA FARMERS who grow lupine this winter should turn under stubble and other litter three or four weeks before planting. And plant in October.

These practical pointers for lupine growers are offered by Dr. John R. Edwardson, Agricultural Experiment Station assistant agronomist.

September plantings in northern Florida usually suffer from footrot diseases, the agronomist says. He adds:

"November and December plantings are sometimes successful. But they are more subject to frost damage and provide much less total green weight and nitrogen when turned under in the spring.

"Lupines planted after corn, cotton and small grains will be more apt to succeed than those planted after peanuts or vegetable crops. Lupines following tomatoes, peppers and tobacco are apt to be subjected to attack by Southern blight."

Dr. Edwardson does not recommend seed treatment before planting, since this reduces inoculation and results in less growth and nitrogen production.

Other suggestions for success with this winter cover crop include:

Fertilize with about 400 pounds per acre of 2-12-12 or 0-12-12, unless the preceding crop has been well fertilized.

Plant lupines in a well-prepared seedbed with grain drills set about eight inches apart, putting the seed about one inch deep and smoothing the soil with a cultipacker. Do not broadcast and disk in seed.

Drill blue lupines at the rate of 100 pounds seed per acre for maximum cover crop yields; 40 pounds per acre in 14-inch rows for seed production. Sixty pounds of yellow lupine per acre will give satisfactory forage production.

Using double the recommended amount of inoculant, inoculate the seed and plant immediately. Inoculation is not necessary where lupines have grown the preceding year or two.

In recent years, sweet blue lupine seed has been found to contain as high as 80% bitter blue lupine seed —indicating that volunteer bitter blue plants had grown in the sweet lupine fields.

The only way to be sure that sweet blue lupine seed is actually sweet is to have an alkaloid test run. Such a test can be obtained by sending five-pound samples of seed to the Agronomy Department, Agricultural Experiment Station, Gainesville.

Dr. Ian Forbes Jr. at Tifton, Georgia has developed a white flowered, white seeded sweet blue lupine variety which has a yield capacity equal or superior to the best commercial sweet blue lupine.

Blanco, the new variety, is to be released in the near future. It will enable growers to easily distinguish sweet and bitter seed in the bag and sweet and bitter plants in the field.

Seed yields of imported sweet virus free yellow lupine and its progeny can be significantly increased by surrounding seed plots with oat borders. This has been shown by Drs. M. K. Corbett and J. R. Edwardson in tests covering two years.

For example: In 1957, imported Weiko III yellow lupine protected by oat borders yielded 820 pounds of seed per acre—unprotected plots yielded 430 pounds of seed per acre.

In 1958, seed harvested from protected plots was replanted in protected areas; this yielded 866 pounds of seed per acre. Unprotected plots planted with seed from the previous year's unprotected plots yielded 495 pounds of seed per acre.

Note: *No* increase in seed yield can be expected from protecting *commercial* sweet yellow lupines with oat borders.

* * *

Corn Keeps Value in Mixed Ensilage

CORN does not lose any of its feeding value when added to grass-legume silage at ensiling time, according to University of Illinois tests.

Feeding trials were conducted with two lots of steer calves. Both lots gained about 1.8 pounds a day on a wintering ration of alfalfa silage from two different silos.

Enough corn was added to one of the silos at filling time, however, to give each calf in the test about 4.5 pounds of corn a day on a full feed of silage with no additional corn.

No corn was added to the second silo. Instead, 4.5 pounds of corn were fed daily to each steer on test in addition to a full feed of silage.

The study also showed that feed costs were slightly lower for the steers getting silage to which corn had been added at ensiling time. the accompanying hypothetical pattern of harvest.

* * *

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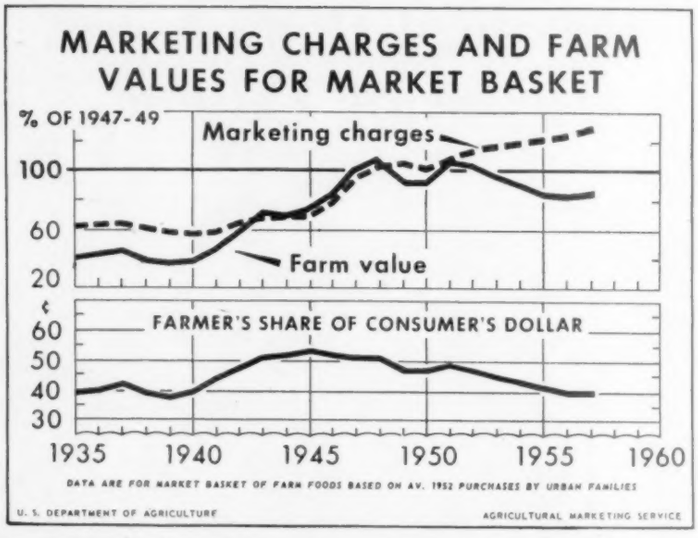

Why do farmers receive such a comparatively small part of the dollar consumers pay for many food products? Why do retail prices often stay up, even when prices received by farmers decline?

Some light is thrown on these perennial questions by the USDA's Agricultural Marketing Service in a new report, "Farm-Retail Spreads for Food Products." This paper points out:

To begin with, the difference—or spread—between the retail price of a product and the payment the farmer receives goes to a whole group of people who move the product from the farmer to the consumer. These include local assemblers, food processors, wholesalers, retailers.

Labor, processing plants, transportation equipment, etc., the resources these marketing agencies use to do their share of the job—sometimes cost more than the resources farmers use to produce the crop in the first place. This is particularly true of extensively processed items.

But even an unprocessed product, such as lettuce, incurs major expenses like long transportation hauls and refrigeration. Consequently, its marketing cost exceeds the farm production cost.

In 1957, farmers received an average of 40% of the retail price of food products—that is, 40% of the dollar the consumer spent for food. Marketing agencies received the other 60%.

However, these are only overall averages; the figures varied widely with the product group. In general, the farmer's price is higher for meat and animal products than for foods derived from crops.

For example: The farmer's share was 67% for eggs in 1957, but only 17% for bread.

Admittedly, it costs farmers more to produce a dozen eggs than to raise the wheat for a pound-loaf of bread: Marketing agencies have to go through an expensive two-stage manufacturing process (milling and baking) to convert the farmer's wheat into bread; they have no such problem in selling eggs at the retail grocery.

Yet, the mere fact that the egg producer's share of the consumer's dollar is larger does not mean that the income—the net return— of the egg producer is necessarily bigger than the net return of the farmer who produces wheat. His costs of production may also be larger.

The farmer's share of the consumer's dollar has declined since 1950, when he got 47 cents. In 1957, the farmer received 7% less for food products than in 1950 while the marketing charges (the farm-retail spread) increased by about 25%.

Marketing costs are largely independent of the supply and demand factors that influence the prices the farmer receives. For that reason, retail prices may stay as high as before . . . even when the farmer is receiving less.

Because they are fixed over a period of time by contracts, many of these marketing costs—wages, for example; leases, freight rates, public utility rates—are relatively inflexible.

In times of inflation, many of these marketing costs do not go up as fast as farm prices; on the other hand, they come down only very slowly. In fact, there are probably more rigidities in marketing costs today than ever before:

Depreciation charges, for example, are higher. In a few cases, a guaranteed annual wage has to be considered.

Labor costs make up about half of the farm-retail spread—and these costs were 19% higher per unit in 1957 than they were in 1950. Hourly wages were up about 40%; but because of increased productivity, the cost *per unit of output* was only half as great.

Transportation costs, which make up about one-eighth of the spread, were up about one-fourth.

Costs of fuel and electric power, containers and supplies, buildings, machinery and equipment rose an average of 30%.

Rents, taxes, and advertising were among other costs which were up substantially.

Furthermore, corporate taxes have accounted for 5 to 10% of the food marketing bill. Taxes have taken about half of these profits in most post-war years.

Another reason why the total bill for marketing farm food products has increased is that marketing agencies are handling more food and performing more services than they did in 1940.

The volume of food products marketed from U. S. farms is up by 50% since 1940; the population has increased by only 30% since that time. This means that the amount of food marketed per capita has increased.

Since 1940, the non-farm population has increased by almost 50% while the number of people living on farms decreased by a third. Since farm people generally produce some part of their own food, former farmers who are now non-farm residents require a larger amount of food from marketing sources.

(Continued on Page 31)

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Hector Supply Co.
Howard Fertilizer Co.
International Minerals & Chemical Corp.
Kilgore Seed Co.
Marico, Inc.

Citrus Growers, Shippers Committee Members Named

MEMBERS and alternates have been named to the 1958-59 Growers Administrative and Shippers Advisory Committees for the coming year.

USDA recently announced the following members and alternates for the GAC:

W. R. McMullen, Tampa, and L. L. Riviere, Palm Harbor; E. L. Atkinson, Umatille, and B. B. Osgood, Montverde; William H. Mayfield and W. A. Prevatt, both of Seville; Chester J. Karst, Orlando, and Jack H. Ross, Oakland.

Alexander W. Ryburn, Vero Beach, and Philip C. Gates, Fort Pierce; Charles G. Metcalfe, Avon Park, and Cole Danley, Lake Placid; L. B. Anderson Jr. and Alfred S. Estes, both of Winter Haven; Eugene Griffin, Sr., Bartow, and George W. Barr, Winter Haven.

SAC members and alternates are:

Harry G. Gumprecht, Jr. and Fred S. Johnson, both of Tampa; Robert V. Phillips, Haines City, and Phil C. Peters, Winter Garden; C. M. Seraphine and R. W. Graves, both of Vero Beach; Robert H. Reely and Ernest H. Southward, both of Sanford.

Ralph Wetherington, Winter Haven, and H. Y. Griffin, Auburndale; John G. Ariko, Orlando, and S. C. Battaglia, Winter Park; Robin Banks, Winter Garden, and Jules W. Bragin, Clearwater; Tom Turnbull, Winter Haven, and B. H. Griffin, Jr., Avon Park.

When it is deemed advisable, the SAC makes recommendations to the GAC to limit the shipment of certain grades and sizes of oranges, grapefruit, tangerines, and tangelos.

The GAC considers the SAC recommendations and then submits their own recommendations plus the original ones to the Secretary of Agriculture. The GAC also serves as the official administrative body under the amended marketing agreement and order program.

All appointments run from August 1 through July 31.

* * *

New Director

Dr. John S. Rogers, noted agronomist, has been named director of Associated Seed Growers' newly created agronomic crops division, department of breeding and research.

Formerly head of the Texas A & M agronomy department, Dr. Rogers played a major role in the university's corn breeding program and hybrid sorghum developments. His headquarters will be in San Antonio.

The primary responsibility of the new division will be the direction of a breeding and evaluation program for agronomic crops, and the expansion of Asgrow's market for hybrid corn and sorghum seed.

MARKETING COSTS

(Continued from Page 30)

Finally, it's also true that a larger volume of food is being processed and ready prepared. More meals are being eaten in restaurants. Both of these results are due to employment and consumer incomes staying high, and to more housewives being employed away from home.

However, all these trends do not lead in the same direction. It must be remembered that not all the extra processing adds to the cost:

In some cases, this cost may be offset by a reduction in waste and spoilage, and the lower costs of shipping.

BY PLACING FIRST (with a team score of *5,347.2*), during the Central Florida Fair in Orlando this spring, the Dade County 4-H Poultry Judging team above won the right to represent Florida in the National Contest to be held in Chicago next November.

Jack Womack of Miami (kneeling, left) was the outstanding individual judge and won the Florida Department of Agriculture's *$100* scholarship. He amassed a total of *1,812.6* points out of a possible *2,000*. Pictured to the right of Womack is Kenneth Conrad of South Miami, who placed ninth in the state.

Shown standing, left to right, are: Susan Thompson of Homestead, Alternate; Freddie Pourbaix of Kendall, second place individual winner, and Roy Champagne, team coach and assistant Dade County Agricultural Agent.

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FLATTERING FASHION FOR FALL is this tasseled top of tumbling curls, puffed high for importance and gracefully slimmed at the sides. In the back, this hairdo tapers softly toward the nape of the neck in an interesting pattern of waves and curls.

Note the wisps that are typical of fall '58's bangs. No heavy lines this year—the trend is subtle.

Feminine? Oh my, yes. And flattering to almost any age.

Recipes for Recreation

By LORA A. KISER

FUN RESTS THE MIND and limbers the spirit. A little recreation inserted into a meeting at the psychological spot produces a relaxed atmosphere and greater congeniality.

If you're recreation chairman of your club or church circle—or a homemaker who likes to see her family activities centering around a joyous household—you'll be planning games this Fall. There are three classifications that you can use. Frances Cannon, a specialist at this sort of thing, terms them *Starters*, *Stretchers* and *Socializers*. Stay with me and you'll see why.

Starters are activities that mix the group informally before the regular meeting begins. Play until time to start and then stop promptly. Latecomers will start arriving early so they won't miss the fun.

An example: Material needed: a coin. To play: divide club members or guests into two teams, one termed heads, the other tails. Line them up facing each other 10 feet apart.

The leader tosses a coin and calls out the side that turns up. If it's heads, the heads laugh and smile while the tails must keep straight and sober faces. The idea is for the heads to do their wily best to make the tails laugh. The players who laugh, must join the other team. Then the coin is tossed again. Sounds mighty elementary. But try it—it's a wonderful way to put people on easy, friendly terms.

Stretchers are just that. They give people a chance to stand and move about between business and the next part of the meeting. They're used as refreshers and should be very short (two to three minutes) with some motion. Don't let the group leave the area of their seats.

As an example, here's one:

Shiny Noses: All players grasp their left ears with their right hands and their noses with their left hands. Then have them slowly grasp their right ears with left hands and hold their noses with their right hands. (Still with us?)

Have them change back to first position and repeat. Increase the speed of the commands. After five or six times, stop the game by saying: "Maybe we'd better stop before everyone has a shiny nose!"

Socializers are games to be used during the club's social hour or at a party. They consist of circle games, line games, mass games and musical games. Some are quiet, some are active. Alternate these two kinds so everyone can take part without getting too tired.

Among the quiet ones is *Descriptive Initials*. Everyone sits in a circle. Ask each person to introduce the person on his right, with a description starting with the person's initials. For instance—"At my right is Mary Jones, who is mighty jovial." Or—"On my right is Mary Jones, who is a miraculous jerk." In a small, well-acquainted group the first round may be compliments and the second round slams. This one's good for lots of laughs.

"*Who Am I?*" is a favorite among the active ones. Pin on the back of each person the name of a famous personality (Abe Lincoln, Mamie Eisenhower, Marilyn Monroe, etc.) The personalities can be living or dead. Then each player attempts to learn his own identity by asking questions which can be answered by Yes or No. The other players must answer the questions correctly but can say nothing other than yes or no. As each person finds out who he is, he transfers his card from back to front and takes his seat.

These are just a few. Vary them for more relaxed meetings and evenings of fun for your young people.

SEND-OFF SUPPERS for the college crowd are on our minds this month. Readers sent in dozens of excellent menus from which we selected these star meals.

To Mrs. Walter A. Hoffman, Rio, Jensen Beach, our laurels for delectables designed for young appetites. Her recipes are included:

Cool Soup Cup
Collegiate Hamburgers
Hot Potato Chips
Zesty Coleslaw
Gingerbread Banana Shortcake
Malted Milks *Iced Tea*

Doesn't that sound good enough for the sauciest sophomore?

Cool Soup Cup

For each pint of chilled tomato juice add lemon juice, salt, Worcestershire sauce to taste and a tablespoon of tarragon vinegar. Serve in cups, topped with sour cream sprinkled with paprika.

Collegiate Hamburgers

Grind together twice ¾ pound beef and ¼ pound pork. Add 1 tablespoon lemon juice, 2 tablespoons chopped onion, 1 teaspoon salt, ⅛ teaspoon pepper, 1 beaten egg, ½ cup evaporated milk. Mix thoroughly. Form in flat cakes, wrap with a strip of bacon, secure with toothpick. Grill until done. Split and toast cut side of buns. Make sandwiches and serve, garnished with raw onion rings, pickle fans and stuffed olives. (Figure a maximum of 6 to a pound of meat.)

Zesty Coleslaw

Shred green cabbage. Make a dressing of vinegar, water and sugar to make sweet-sour dressing. Fry diced bacon until crisp, pour bacon and a little of fat over cabbage which has been mixed with sweet-sour dressing. Don't make this too wet.

Gingerbread Banana Shortcake

Bake 2 layers of gingerbread by your own recipe or from a packaged mix. Cool, then put layers together with lots of whipped cream and sliced bananas. Top with more cream and bananas.

Riches from your kitchen are a traditional and ever-welcome Christmas gift.

Win $5 by sending us your suggestions and recipes for Christmas gift items. We know a homemaker who's famed for her pound cake—she packages them brightly and delivers them, holly-decked, on Christmas Eve.

Another sends tiny baskets of assorted marmalades. Chutneys herald the goodwishes of another. And we even have a friend who does packages of frozen hors d'oeuvres, ready for the oven.

Send us your special brand of sorcery and we'll send you a crisp bill or a subscription if it's published in our November issue.

Mail your entry by September 28 to:

Recipe Contest
FLORIDA GROWER *and* RANCHER
P. O. Box 2350
Tampa, Fla.

First prize — $5; second prize — $2; third prize — a 3 year subscription for yourself or a friend.

(Continued on Page 34)

Living IN FLORIDA

By MADGE PURVIS
Guest Editor

(EDITOR'S NOTE: Miss Purvis has just completed four years at Florida State University. A journalism student and close observer, she gives FLORIDA GROWER *and* RANCHER *readers useful tips on the wardrobe-way to a successful college career.)*

YOUR WARDROBE is your ticket to a successful freshman year.

If this is your first semester at a Florida university or college, you'll want to get right into the whirl of social events that goes on around you in a continuous cycle.

Each article of clothing you make or buy is a stepping stone to success or failure. Each item must be the right style and color for you; it must be comfortable and adaptable to our warm Florida climate and it must make the big man on campus take a second look.

What does the well-dressed Southern co-ed wear? Let's look in the closet of a Florida State University Campus Queen, Miss Arielou Johnson of Lake Worth, Florida. Though just beginning her junior year, Arielou has been queen of one campus beauty event and an attendant to the queen in several others.

Her classroom uniform is either a straight skirt with a blouse or sweater, or a tailored dress. These outfits are suited for long afternoon labs or sessions in the library during October warm spells. Later, Arielou adds a cardigan for cool mornings and evenings.

On the F.S.U. campus, most dates are informal ones. Arielou's social calendar is filled. For afternoon and evening coffee and coke dates, Arielou uses femininity as her guide, choosing full-skirted dresses in dark printed, striped or plaid cottons. She finds these attractive and easy to wash and iron. For the movies or an informal fraternity party, she wears the same type of dress with high heels and earrings.

For church, football games or sorority teas, Arielou combines simplicity and femininity. Her outfits are full or straight-skirted, in knits, weaves or jerseys. High heels are a must, with gloves and a hat for church and very formal teas. For the Homecoming football game, some of the girls wear hats and gloves, but this is optional.

For "big moments"—fraternity and campus formal dances—Arielou looks glamorous without over-doing it. Her formals and semi-formals are dainty, but have a minimum of ruffles and frills. "Party clothes should play up your beauty features, not over-power them," is her rule-of-thumb.

On Saturdays, when campus attire is casual, she looks comfortable and cute. For trips to the coast or to the stadium to watch her favorite fraternity play football, Arielou wears Bermuda or Jamaica shorts, with blouses, sweaters or tee shirts. When the weather's cooler, she wears a white blouse under her sorority or F.S.U. sweatshirt.

Co-eds at Florida colleges don't go in for extreme styles. Campus fashions change from year to year and from campus to campus. What's worn on another campus may not be in style at your campus. And last year's rage may be very old hat this year. If you're in doubt about certain styles, wait until you get on campus before stocking up.

BEAUTY QUEEN Arielou Johnson models a skirt and blouse, the college favorite for a classroom "breeze" with dating "ease."

A few items are standard on almost any campus. You'll want them in your wardrobe—if they bring out your best features. These are: walking shorts, straight skirts in khaki or black, white blouses, transitional washable cotton blouses and dresses, at least one versatile party dress, a waltz-length or full-length formal, sweater and skirt outfits, and fast-drying lingerie.

What will you get from careful planning? Self-confidence, compliments, and most important—dates!

YARD & GARDEN

By MARGUERITE SCHWAEN

SOMEBODY has been busy.

I know—for there's a whole new color chart of annuals to be planted this month. New seeds for Fall planting are in the racks and there are alluring new hues in sweetpeas, petunias, hollyhocks, asters and marigolds.

Maroon and mahogany strains are dominant—as in a new Spencer sweetpea, the Warrior, which is a rich maroon. These flowers are large, wavy blooms with winged frills at the outer edges. Like all sweetpeas, they require a fertile soil, well-rotted manure placed six inches below the surface and four inches below the seed, and almost unlimited water.

Mahogany and gold stripe a French marigold of the dwarf variety. This dwarf, Royal Scot, won the All American award. Its uniformity of height and the shape of the plants make it ideal for borders and low hedges. Royal Scot also grows tall in a variety that's good for background planting.

A wilt-resistant aster that's more maroon than red or pink is a Mandeville-King bloom called American Brandy. This strain is bragged on for its immunity to the common aster's disease, wilt.

In planting asters, remember this somewhat complex fact about their blooming habits: If they're planted in the Fall so that they come into bloom while the days are growing shorter, they will not achieve full height before putting on bloom. In the Spring, when the days begin to stretch out, the asters develop full growth before blooming. I mention this in case you're determined to have long-stemmed beauties.

Another All American winner is Indian Spring, an annual in shades of pink with overtones of gold and tan. This or any annual hollyhock can be planted this Fall for flowers in the Spring. This one is semi-double and blooms profusely.

Little Giant is a new, ruffled dwarf petunia, multicolored that grows to a height of 10 inches. It blooms later than most petunias with bushy, compact plants covered with ruffled and waved, deep throated flowers in every imaginable color and combination of markings. The range is from a deep crimson to white with as many as six colors in some blooms. Little Giant is a very handy fellow indeed, being adaptable for bedding, low borders and for potting.

Every year the hybridizers delight in springing their innovations or re-discovering a favorite of long ago. This year seeds are available of the phlox called Star of Quedlin-Bury, a quaint and unusual type. A combination of light fringe and dark centers give an attractive star-shaped effect. A mixture of this and the popular phlox Drummundi make an enchanting picture.

One of the most interesting new items I've discovered in browsing around the garden shops is a by-product of Hershey's chocolate, the dry shell of the cocoa bean, now offered as mulch and as a source of humus. The rich brown color is pleasing and the haunting chocolate odor is fragrant on the air.

These cocoa bean shells supply some minerals and a small amount of nitrogen. Personally, I'd like them as a ground cover or mulch for color and odor even if they didn't have this bonus of nutrition.

BEST RECIPES

(Continued from Page 32)

Serve immediately. (Don't slice bananas until serving time—they'll turn dark, you know.)

* * *

SECOND PRIZE

Mrs. Victor J. Manos, 12540 S.W. 80th Avenue, Miami, suggests these tempters:

*Pigs in the Blanket**
Hot Garlic Bread
*Tossed Greek Salad***
Pineapple Upside Down Cake
Iced Tea

*Pigs in the blanket are ground meat, rice and onion wrapped in cooked cabbage leaves. They are served with egg-lemon or tomato sauce.

**Greek salad ingredients include endive, lettuce and escarolle, cucumbers, radishes, black olives, tomatoes, goat's milk cheese, oil and lemon dressing.

* * *

HONORABLE MENTION

Jane E. Phippins, Williamsburg, Virginia sent a favorite family menu that's a lip-smacking combination. She'll get a three-year renewal of her subscription for this:

Deep-Fried Chicken
Sweet Corn on the Cob
Potato Salad - Crisp Green Salad
Apple Dumplings with Cream
Parkerhouse Rolls - Butter
Iced Tea

Youth Has Its Say

A 16 YEAR OLD girl whose home is in Rockbridge, Ohio, won our youth contest prize of $5 this month. She is Carole Brooke, and her excellent letter was in answer to our question: "What school activities or sports do you consider best for helping boys and girls grow into well-rounded young adults?"

Here's Carole's letter: (Note the box on this page for ways to win a $5 check of your own in November.)

Dear Editor:

In answering your question, what school activities and sports are the most fun and most helpful in turning boys and girls into well-rounded young adults, I would say that one of the best school activities is Student Council. It gives the students a chance to work together and with their sponsors in governing their school and its activities.

Also 4-H, FFA, and FHA are school activities that are definitely worth your while.

Football, basketball, baseball, track, and almost all other sports are fun and play, or should play, an important part in every boy and girl's life.

Active participation in these sports isn't important in order to benefit them, after all what would a football game be without the cheering crowds?

Another good school activity is the school band. It is fun, it gives you a chance to work with others, and to learn something that may be valuable later in life. Some other activities that might be worth while are: the school paper, cheerleaders, pep squad, and there are many others.

As you can see there are many worth while activities and sports in our schools just waiting for us to enjoy and benefit from them.

Thank you,
Carole Brooke
(Age 16)

Here in the home department of this family magazine, we get chatty notes and messages from friendly readers. One of the questions we've received is: "How old should a girl or boy be before they're allowed to take baby-sitting jobs?"

This is a matter of individual family conscience but we are curious as to what you teen-agers think. Is 14 old enough for a girl to go into another home, assuming responsibility for children while their mother goes out? Is 16 better?

Lots of you probably baby-sit now. Write us your opinion on the proper age for baby-sitters—and include a little on the attitude and responsibilities involved.

Deadline is September 28. If you're between 10 and 20, write not more than 200 words to:

Youth Has Its Say
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SHORT CUTS

A $1 check will be paid for each Short Cut published.

* * *

After using paint or varnish, rub hands and arms with a lanolin-rich cream (or a cream hair dressing). Then wash with soap and water. This is less harsh than turpentine and very effective. *Mrs. H. H. P., Fellsmere, Fla.*

* * *

Keep a small covered jar of bleach near the sink. Use it to take tea or coffee stains off china without removing the china's glaze. *Mrs. A. S., Oldsmar, Fla.*

* * *

Clean the dust from houseplants quickly and easily by using a clothes sprinkler to water them. *Mrs. R. M., Bayou La Batre, Ala.*

* * *

Before threading a needle, draw the end of the thread against a candle. This stiffens the thread so that it passes easily through the eye of the needle. *C. S., Orlando, Fla.*

* * *

To remove stains from bottom of electric iron, rub a small amount of silver polish on, then wipe off thoroughly with damp cloth. *Mrs. C. A., Orlando, Fla.*

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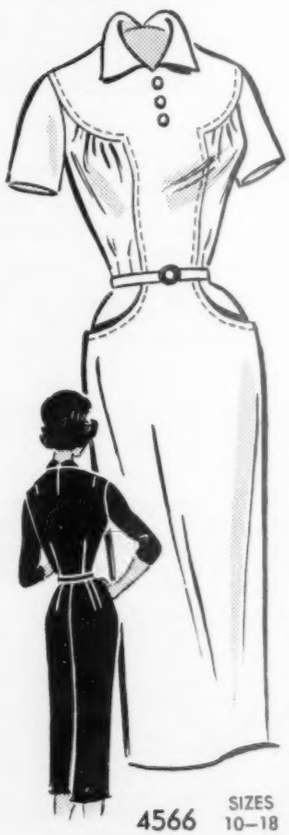

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Good Plans for GOOD BUILDING

By T. C. SKINNER Extension Agricultural Engineer Florida Agricultural Extension Service

Cattle Chutes and Head Gates

BECAUSE they do not have adequate facilities for doing the job, many cattlemen have difficulty working and treating animals. Often, serious injury can result to the animal or person working the animal.

The obvious solution to this problem is to provide adequate cattle handling equipment.

One of the best methods of accomplishing this is to provide a well constructed and properly designed holding chute and head gate. The easy-to-follow plan referred to here shows three different designs for holding chutes and head gates.

Each of the designs is adequate. The two types not illustrated are lever operated; one has a roof over the head gate and chute.

Illustrated here is a chute with a cat walk and a small service gate on one side. Cattle may be let out through the four-foot gates on either side.

The plan calls for pressure-treated materials to be used in the structure. This is very important if a durable structure is to result; as most people know, exposed non-treated wood is very short-lived in Florida.

Working drawings of these three types of cattle chutes and head gates may be obtained through the local County Agent's office or from the Agricultural Engineer, Agricultural Extension Service, University of Florida, Gainesville.

* * *

Skinner Honored

His method outline on "Farm Fencing Clinic" won national recognition for T. C. Skinner, engineer with the Florida Agricultural Extension Service.

Announcement of the award of a blue ribbon to Skinner was made at the 51st annual meeting of the American Society of Agricultural Engineers held recently in Santa Barbara, California.

FLORIDA GROWER *and* RANCHER readers are familiar with Skinner as the author of the monthly column, "Good Plans for Good Buildings."

Horticultural Society to Meet

Florida State Horticultural Society will hold its 71st annual meeting at the Fort Harrison Hotel, Clearwater, on October 29-31.

Dr. A. F. Camp, Society president, announces that Dr. J. R. R. Bristow of Dunedin will be chairman of the local arrangements committee. John Henry Logan, Pinellas County Agricultural Agent, will serve as master of ceremonies at the annual banquet.

"The preliminary program for the meeting is shaping up fine. It is expected to be one of the best meetings the organization has ever had," reports Dr. Ernest L. Spencer, Society secretary.

Pertinent papers concerning all major segments of Florida's agricultural industry will be presented during the three-day meeting. A more detailed report on the forthcoming program will be printed in the October issue of FLORIDA GROWER *and* RANCHER.

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FLORIDA FARM MARKET PAGE

The rate for classified advertising on this page is 10 cents per word, per issue, cash with order

TREES — NURSERY STOCK

SUPERIOR CITRUS TREES—Guaranteed no freeze damage. Nursery inspection invited. Most varieties available for Fall 1958 and Spring 1959 planting. For quotations call GLendale 2-7541, or write WARD'S NURSERY, INC., Box 846, Avon Park, Fla.

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CITRUS TREES—Make reservations now for coming season's planting. Ocklawaha Nurseries, Lake Jem, Florida.

15,000 two year old trees Hamlins on Sour Valencins, Pineapples, Hamlins budded seedlings on Lemon. 100,000 Sour and Lemon liners, inspected nemstode free. Richard Tombrink, 1311 Jefferson Avenue, Dade City, Florida. LOgan 7-3377.

HAWAIIAN "TI" Plant, grows lovely, rare house plant! Guaranteed to grow! Two logs—postpaid, $1.00. CHESLEY DISTRIBUTORS, 2339 S. University Avenue, San Diego 4, Calif.

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Thousand Hamlins, 125 Valencia orange trees on sour rootstock for fall planting. Yarbrough & Butler Nursery, P. O. Box 446, Durant, Florida. Phone Plant City 3-7544 or 3-7543.

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PENSACOLA BAHIA GRASS, EARLY HAIRY INDIGO, and ALYCE CLOVER. All high quality, new crop. Available now. Write for prices. GRAND ISLAND NURSERIES, P. O. Box 906, Eustis, Florida.

AMAZING NEW HYBRID Everbearing Strawberry, Ozark Beauty. Produces first year. Originator—Winn's Berry Farms, West Fork, Arkansas.

FALL CABBAGE AND COLLARD PLANTS—Copenhagen Market, Resistant Copenhagen, Marion Market, Round Dutch, Georgia Collards. Seed treated and fields sprayed to insure healthy plants. 100, 75¢; 200, $1.10; 500, $2.25; 1000, $3.25 Postpaid. Express Collect; $2.00 per 1000. PIEDMONT PLANT CO., Dept. 1300, Albany, Ga.

Virus Free Strawberry plants—plenty of Florida 90 and Missionary plants available in October, also other varieties. Write for prices. 100 plants prepaid $1.50. C. L. McDaniel, Harrison, Tenn. Phone FI 4-6797.

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If your farm or ranch is for sale please contact me. I also make loans on land and cattle. Tom McDonald, Box 4133, Ft. Lauderdale. JA 2-8345.

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Registered Beagles grown dogs, puppies all field champion sired, $25.00 up—at stud field champion Duncans Little Deacon, Fee $25.00. Pea Hill Kennels, Gasburg, Virginia.

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KILL BRUSH at low cost with amazing R-H Brush Rhap. Will not injure grasses, grains, cattle or other animals. See your dealer or write Reasor-Hill Corporation, Box 36X, Jacksonville, Arkansas.

Kill wild onions and dock this Fall and late Winter with R-H WEED RHAP. Low Cost. Will not injure grass, grains or cattle. Call your dealer, or write Reasor-Hill Corporation, Box 36X, Jacksonville, Arkansas.

KILL submersed water weeds which foul up motor propellers, tangle fishing gear and choke irrigation ditches with R-H Granular Weed Rhap. Inexpensive, easy to use, sure results. For details write Reasor-Hill Corporation, Box 36X, Jacksonville, Arkansas.

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Landscape with new hybrid Hemerocallis. Fresh seeds from original 24-48 hour bloomers, all colors and combinations, mixed, 20 seeds $1.00, 50 seeds $2.00, 100 seeds $3.50. PHILIP O. BUCH, 106B Rockaway Ave., Rockaway, New Jersey.

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EAR-TAGS, LONG-LIFE, snag-proof, legible 25 feet. Neck Chains, Straps, Anklets. Literature. Bock's Co. Mattoon, Illinois.

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POCKET WATCHES: 16 size 17 and 21 Jewels, same as new at prices you can afford to pay. Write for prices. Guaranteed satisfaction. W. E. Russell, 704 Skyview Drive, Nashville 6, Tennessee.

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SERVICE THAT SAVES MONEY: Consultants, Supervisors, Management, and complete services for ranch, grove, farm, timber, and wild life lands; Accounting, income tax, appraisals, loans; Livestock buying, brokers, shippers; Specializing in Florida, The South and Latin America. Se Habla Espanol. FLORIDA AGRICULTURAL SERVICE, P. O. Box 1429, Plant City, Fla. Phone 2-2931.

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WE SPECIALIZE in started Pullets for cage egg producers. Available the year round. We have White Leghorns of the famous Mount Hope Strain, this is one of the oldest high production strains in America. They are medium size Leghorns and adapt themselves readily to cage confinement. We are in position to make delivery of these pullets at different ages up to ready-to-lay. Better still, call and see our newly constructed modern plant in operation. Write or phone us. SUNNYBROOK POULTRY FARMS, INC., Dept. G, Box 463, Route 3, Ocala, Florida. Phone Marion 9-1525, Ray Arthur, Mgr.

Trace Minerals for Heifers

Feeding of trace minerals in a fattening rationing for heifers has considerable value, Kansas State College tests show.

When trace elements were added to the ration, heifers fed a corn full-feeding ration for 104 days were reported to have daily gained .37 pounds more than did a group of control heifers.

The heifers getting the trace mineral ate slightly more grain and utilized it more efficiently. The savings on feed costs per hundredweight of gain was $2.11 in favor of the heifers fed the trace minerals.

"If Daddy comes out smiling, that means he got the loan."

Poultry Producers Elect

WELLS of Auburndale was president when Florida oultry Producers Association s annual meeting in Gaines- July 29.

r officers chosen were: Smith, Nassau County, first esident; Frank See, Dade, vice president; Ross Cope- Hillsborough, secretary-trea- nd Herman Jones of Duval ng secretary. Forrest Hig- nam and Jim Littman, of and Gadsden Counties respectively, were named to the executive board.

In the photo above, Wells (center) is shown receiving the association records from Lou Mazourek (right) who served as president for the past three years. Looking on is Sam O'Quinn of Tampa, 1954-58 secretary-treasurer.

Due to health conditions, O'Quinn was forced to decline another term in office. The association presented him a $100 bill as a token of thanks for his outstanding service to the group.

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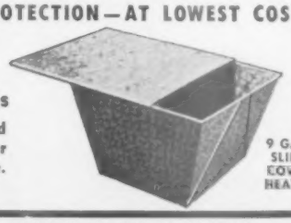

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NEW DYRENE® GIVES OUTSTANDING FUNGUS CONTROL ON TOMATOES AND POTATOES

Produces high quality crop... big yield increases compared to other fungicides.

Now you can get increased yields you never thought possible—by using DYRENE, a new and patented organic fungicide recommended for tomatoes and potatoes. DYRENE is the product of five years of cooperative research and field testing and has proved outstandingly effective for the control of early and late blight on tomatoes and potatoes, and anthracnose, septoria leaf spot and gray leaf spot on tomatoes.

DYRENE controls these destructive fungus diseases so effectively that amazing increases in crop yields result from its use. Look at the comparative yields in the table below!

TYPICAL RESULTS OF DYRENE FIELD TESTS

Location	Crop	Material	Yield
Mississippi	Tomatoes	**DYRENE**	**215 lbs. per plot**
	Tomatoes	Tribasic Copper Sulfate	181 lbs. per plot
	Tomatoes	Captan	180 lbs. per plot
Florida	Tomatoes	**DYRENE**	**915 lbs. per plot**
	Tomatoes	Carbamate	317 lbs. per plot
New York	Potatoes	**DYRENE**	**337 bu. per acre**
	Potatoes	Captan	306 bu. per acre
	Potatoes	Check	238 bu. per acre

DYRENE will not harm foliage or affect the flavor or odor of treated crops. And it leaves no harmful residue.

Upgrade the quality and increase the yield of your tomato or potato crop this new and better way . . . with DYRENE. Order it from your Farm Supply Dealer today.

DYRENE A PRODUCT OF CHEMAGRO

"Chemicals for Agriculture—Exclusively!"

Editorial Comment

They Also Serve - - -

ALONGSIDE OUR STATE and U. S. scientists there is a group, just as big in numbers, working for the benefit of the grower and rancher. But these folks are not so accustomed to praise because their work is frequently thought of as "commercial."

Be it "commercial" or not, the scientists, researchers and field men of America's private agricultural companies—notably the chemical, equipment, fertilizer, seed and drug organizations—deserve a big share of the advancement of farming as we know it.

These people are in business to make a profit just like the farmer. What they can contribute to the farmer contributes to their own company—and they have made vast contributions. The presence of private enterprise in farming is the one great stronghold against socialized agriculture. If it were not for these companies and their competitive effort to offer consistently better products and services to the farmer, the GROWER would never have been able to publish the first issue nearly 50 years ago.

We feel that farmers and ourselves alike owe a tribute to the unheralded commercial companies that have served faithfully and well the needs of Florida agriculture. They have worked in many ways, from the important development of insecticides, vaccines, plant foods, and mechanical equipment to the practical little innovations that make farm life easier and more profitable.

Farm Health

Authentic health information for farm families, prepared through the cooperation of the Council on Rural Health, American Medical Association, and the Florida Medical Association.

STROKES

BASICALLY, a stroke is an "accident" which occurs in the blood vessels which serve the brain. That's why doctors speak of them as "cerebral vascular accidents."

In general, there are three types of causes: thrombi, emboli, and the splitting of a blood vessel followed by bleeding.

With age, obesity, diabetes and many other conditions, deposits of fats and minerals form within the inner lining of arteries. White, waxy and thick, these deposits are known as "plaques." They cut down the size of the artery (just as deposits of calcium or rust do in a water pipe) and the flow of blood is slowed.

As the blood flow slows, clots are produced in the small end arteries. These clots are thrombi—the cause of one type of stroke.

Roughened and cracked areas may be formed if the placques are in larger arteries. As the blood flows over these areas, corpuscles adhere to the roughened patches in the same manner that algae adheres to a twig in a moving stream.

Eventually, a group of these corpuscles (or blood cells) may outgrow the roughness to which it is attached. So it breaks off and lodges in a narrowed or end artery. These are known as emboli.

Sometimes the presence of the waxy plaques so changes the nourishment and growth of the artery wall that it splits—and bleeding occurs. This sort of vascular accident usually produces marked shock and more extensive paralysis.

Thrombi, emboli and arterial splitting all alter the blood supply to vital nerve centers in the brain. This produces paralysis.

Paralysis resulting from strokes varies with the location and the size of the arteries involved. People literally walk upside down from the opposite side of their heads. For example:

If there is a paralysis of the right leg, there has been a cerebral vascular accident on the left side of the brain above the ear and near the top of the head. If the left arm is involved, the accident has been on the right side of the brain lower down. If both sides of the body are paralyzed, the accident has been in the area where the nerve paths cross.

Prevention

When do strokes occur? Usually after the age of 50, and usually after some abnormal physical exertion or emotional stress.

How can strokes be prevented? There is no known way to guarantee prevention of strokes.

However the danger can be *lessened* by control of weight, and by doing all things—including worrying, playing and living—in moderation.

Obesity, unfortunately, is one of the greatest problems in rural health today. A part of the reason probably lies in the abundance of food on the farm and the rural tradition of large meals.

But psychiatrists also tell us that most fat persons are "compulsive eaters"—that is, they compensate for their frustrations by feeding their bodies. And the resulting fatness adds insult to injury.

Diversifying and broadening one's social, cultural, civic and spiritual interests aids in controlling obesity, tension and hardening of the arteries, the specific forerunner of strokes.

The best prevention we have against strokes is to be just good human beings, effectively living in atmospheres of temperance and moderation:

We should learn to be appreciative of ourselves, and in love with our families, our neighbors and our God. We must be judicious in the use and abuse of ourselves in the same way that we are careful in the use and abuse of our machinery and livestock.

Prevention is the only cure for strokes.

Letters to the editor

Up vs. Down

Gentlemen:

Concerning your answer *("ends pointing down")* to question number 10, How Smart Are You? in the August 1958 issue about how horseshoes should be hung:

I have always heard it said "With the ends pointing up." This is to keep the "LUCK" *in* and prevent it from spilling out, as would happen if hung with points or ends pointing down. And this sounds reasonable to me.

Charles S. Tiemann
St. Petersburg, Fla.

(At the risk of contradicting ourselves and the official answer we were given to this question, we must admit Mr. Tiemann's explanation does sound reasonable.)

Masterpiece

Dear Sir:

Your editorial in the July issue of FLORIDA GROWER *and* RANCHER —"Of Rights and Freedom"—is a masterpiece of truth in a few words. Thank you.

L. C. Hanna
Lutz, Florida

(And we thank you, Mr. Hanna, for your kind words.)

Issue Praised

Dear Sir:

I have just received my copy for August of the FLORIDA GROWER *and* RANCHER. I should like to congratulate you on this particular issue. All issues are good, but this one seems to be outstanding to me.

Will you please send me six additional copies of the August FLORIDA GROWER *and* RANCHER. Please bill them for me.

J. J. Simmons
Sales Manager
Merck & Co., Inc.
Rahway, New Jersey

Dear Sirs:

I thank you for the notice that my FLORIDA GROWER *and* RANCHER subscription is expiring. Enclosed you will find $2 for the best magazine that comes out of Florida.

Charles H. Dudley
Detroit, Michigan

THUMMER GREEN — —

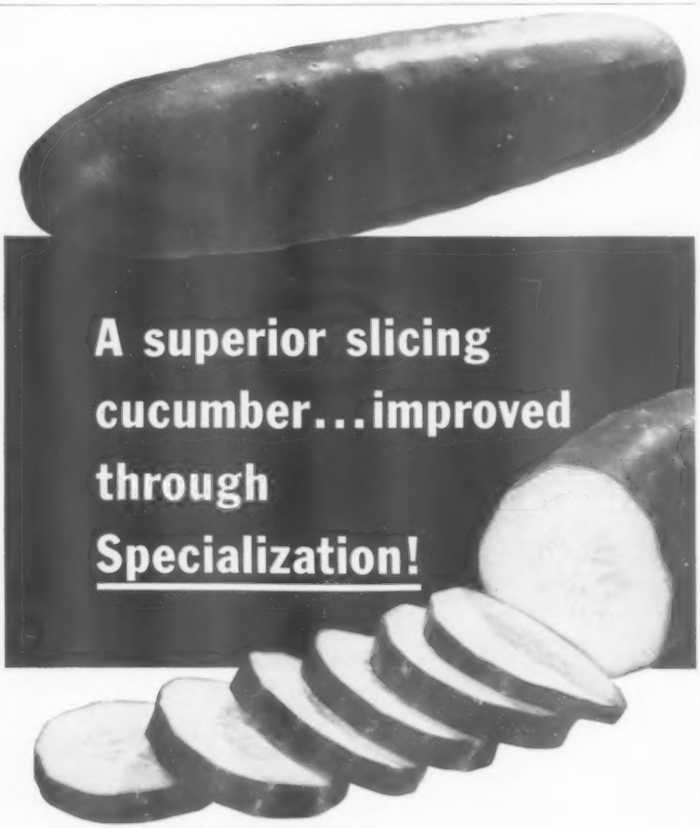
- - - *SHARMAN*

NOW WHY ARE YOU PECKIN' AT THE DOOR THIS TIME OF NIGHT?
PURRRRK PURK PURK * PURK PURK * PURR
OH ALL RIGHT! I'LL GIVE YOU A DRINK OF VINEGAR AND SOME RAISINS AND TROPICAL FISH FOOD!
HERE Y'ARE
SHE WANTS TO SET AGAIN!

How smart are you

(Answers to Questions on Page 2)

1. *Boston Common in Boston, Massachusetts.*
2. *From pure cotton and linen rags.*
3. *Sweet, salt, sour and bitter.*
4. *Liberty Enlightening the World.*
5. *Reds and greens.*
6. *Soft.*
7. *Great Britain.*
8. *Ten.*
9. *From the Italian word "camera" which means chamber.*
10. *The alligator.*



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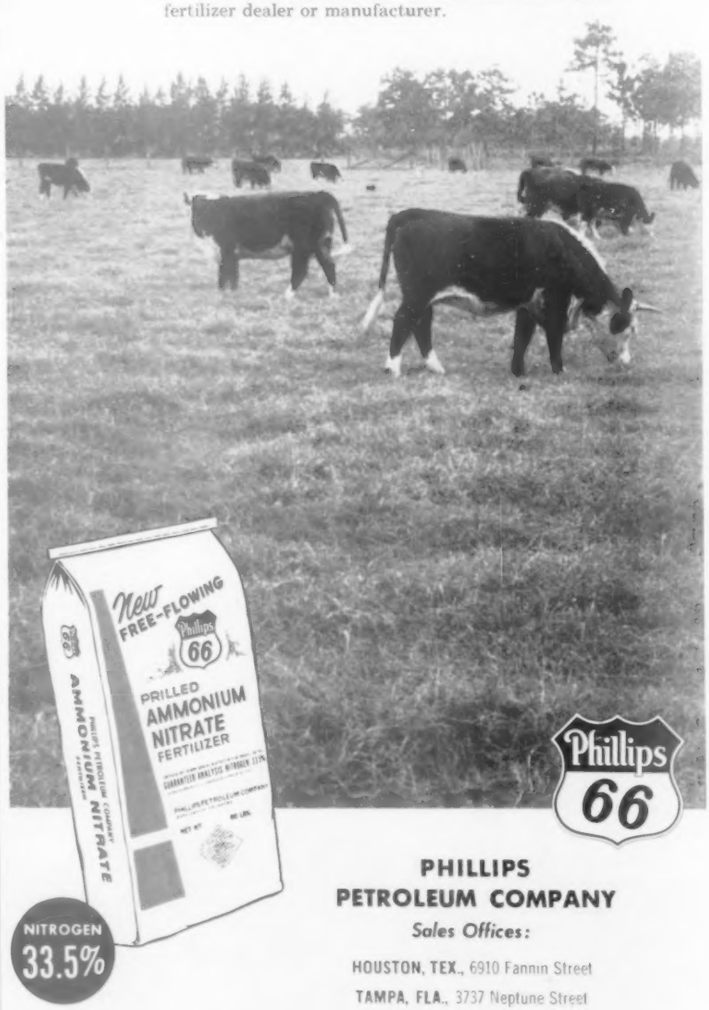
Experience of successful Florida cattlemen shows that top dressing winter pastures with Phillips *66* Ammonium Nitrate can result in: (1) Up to two tons more forage per acre; (2) Up to 50 per cent greater protein content, for higher feeding values and bigger beef gains at less cost per pound.

Carrying capacity can be greatly increased because the 33.5% nitrogen in Phillips *66* Ammonium Nitrate stimulates a heavy growth of more palatable grasses. To get the full benefit of this high quality nitrogen, be sure to top dress your pastures early.

Make plans now to get better forage from winter pastures. See your local dealer right away for your supply of Phillips *66* Ammonium Nitrate.

● Florida pastures require the essential minerals in high quality mixed fertilizers. Get both the mixed grades and Phillips *66* Ammonium Nitrate from your fertilizer dealer or manufacturer.



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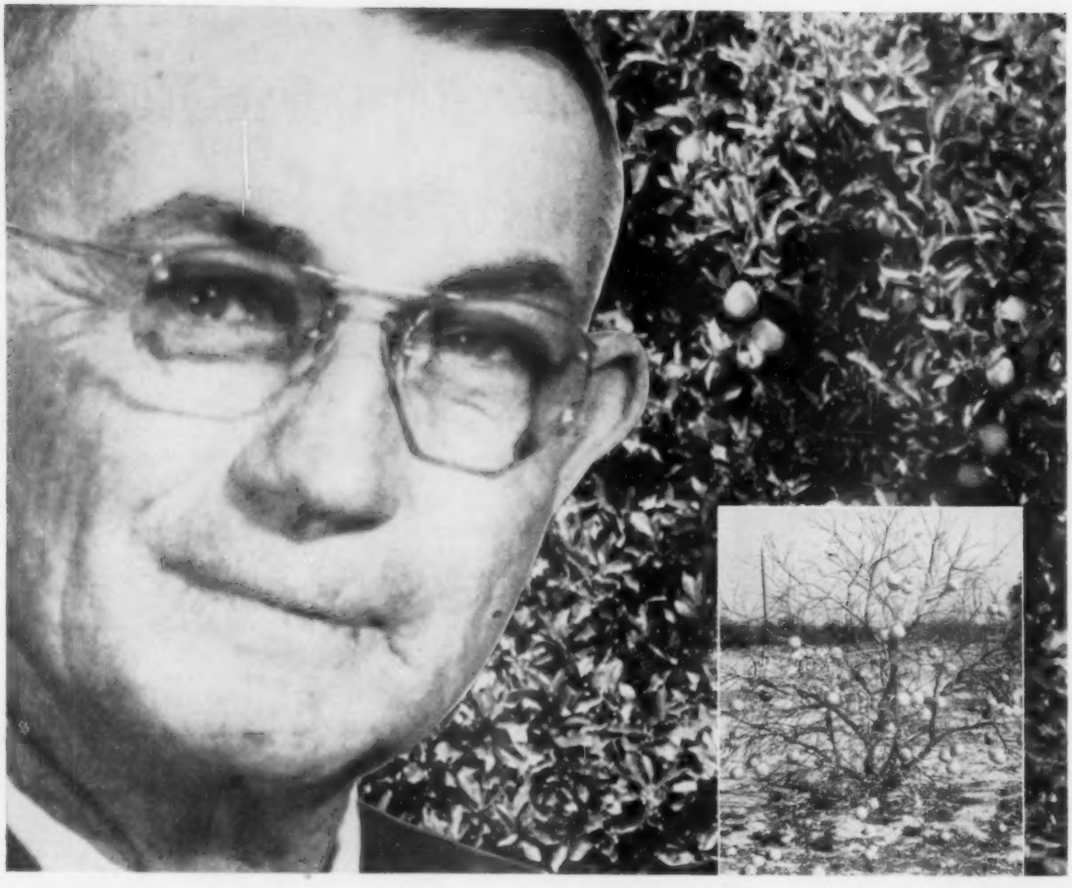

RAINBOW

cuts freeze damage

CITRUS TREES BOUNCE BACK FAST—That's what W. P. "Bill" Davis of Wauchula, Hardee county, has to say about Rainbow Plant food.

By fertilizing groves with Rainbow containing MEM, Bill Davis and hundreds of other Florida growers are cutting the risks and losses of freeze damage. When other trees are dropping leaves and fruit because of freeze damage, (see inset photo) Rainbow-fed groves are lush-looking and heading for better yields.

Get in touch with your nearest Rainbow representative . . . ask him about Rainbow and the extra profit protecting ingredient, MEM.

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Some New for

By JAMES E. BROGDON

DURING the past few years, several new miticides have been tested in Florida by Dr. Roger Johnson and Dr. John King, Citrus Experiment Stations, and Dr. Herbert Spencer, USDA.

Four of these materials that have proven effective against certain citrus pests and are commercially available to growers are Kelthane, Tedion, Trithion and Chlorobenzilate.

Considered to be less toxic to people than DDT, Kelthane has proven effective against the citrus red mite (purple mite) and the Texas citrus mite. It aids in rust mite control, but is not effective enough to be used without sulfur or Zineb.

Kelthane gives quick kill of young mites and adults. The recommended rates of application are 1 to 1½ pounds of the 18.5% wettable powder or 1 to 1½ pints of the 18.5% emulsifiable concentrate per 100 gallons of water.

A tolerance of 10 p.p.m. (parts per million) has been established for residue of Kelthane on oranges, grapefruit, tangerines, lemons, limes, tangelos and kumquats. The minimum number of days between the last application of this material and harvest is seven.

Tedion has given good control of the citrus red mite (purple mite) and the Texas citrus mite, but is not effective against rust mites. It kills the young mites and eggs, but does not kill the adults.

Also Tedion kills slowly. As a result, a week or more may pass before the mites are brought under control. For this reason, it is desirable to mix Tedion with a quick killing miticide when spraying for heavy infestations of purple mites or Texas citrus mites.

Effective during warm weather as well as the winter, this new miticide has a long residual action. Its toxicity to people is low.

When used at ½ to 1 pound of the 25% wettable powder per 100 gallons of water, Tedion has given good control of purple mites. A tolerance for residues of Tedion on citrus fruit had not been set as of July 1, 1958. As a result it should not be used on bearing trees with fruit until approved.

A third material which controls purple mites and Texas citrus mites and kills them rapidly is Trithion. In addition, it has been about as effective against rust mites as wet-

Miticides Citrus

Extension Entomologist

table sulfur but not as effective as Zineb.

Trithion is available as a 25% wettable powder and as an emulsifiable concentrate which contains 4 pounds of active ingredient per gallon. The wettable powder should be used at 1 pound per 100 gallons and the liquid concentrate at ½ pint.

A tolerance of 2 p.p.m. (parts per million) has been established for residues of Trithion on oranges, grapefruit, tangerines, lemons, limes and tangelos. The minimum number of days between application and harvest is 14, except when it is mixed with oil.

When Trithion is used with oil, there should be at least 30 days between application and harvest.

Chlorobenzilate gives good initial kill of purple mites and Texas citrus mites. But does not have a long enough residual to be recommended alone for these pests. It has been somewhat superior to sulfur against rust mites, but less effective than Zineb.

When used for the control of rust mites, Chlorobenzilate should be used at ½ to 1 pound of the 25% wettable powder or ½ to 1 pint of the 25% emulsifiable concentrate per 100 gallons of water.

A tolerance of 5 p.p.m. (parts per million) has been established for residues of Chlorobenzilate on oranges and lemons. There is no time limitation between last application and harvest. The makers of this miticide have submitted a petition, along with residue data, to the Food and Drug Administration requesting that a tolerance of 5 parts per million be established for residues on grapefruit and tangerines.

Before using these or any other pesticide, the grower should read the manufacturer's label carefully and completely and follow all directions.

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FAST Tropic Breeze Wind Machines whirl into action at the flip of a switch. Provide wide area frost protection in 3 to 5 minutes. One man can supervise entire operation. No need of stand-by crews or heater refueling worries.

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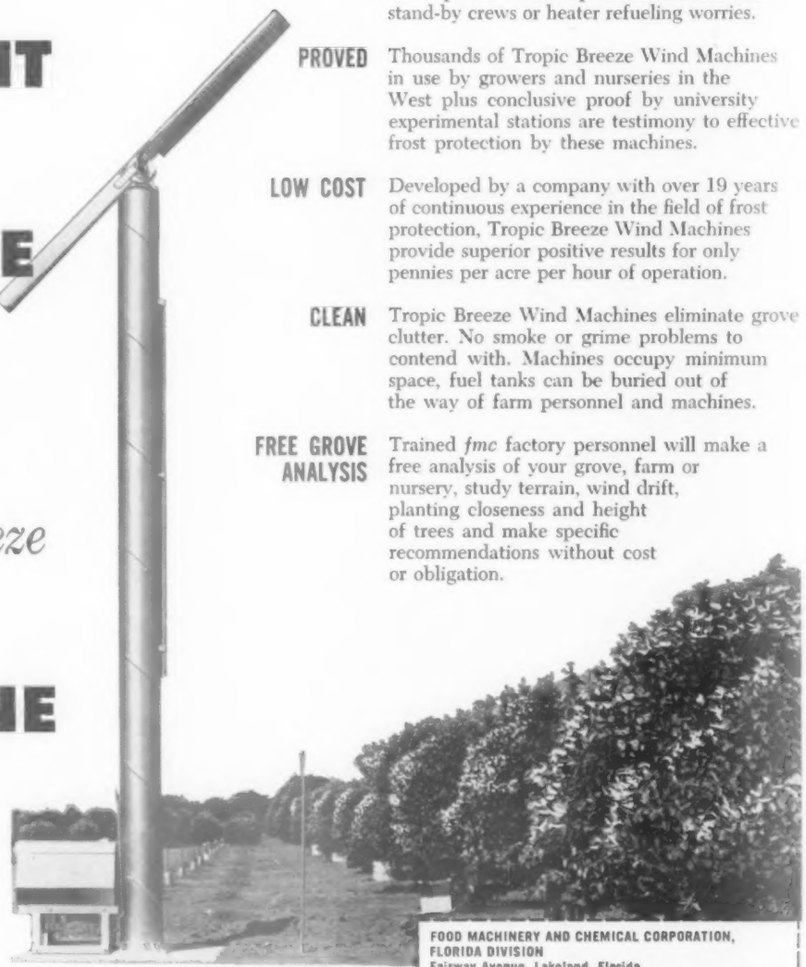

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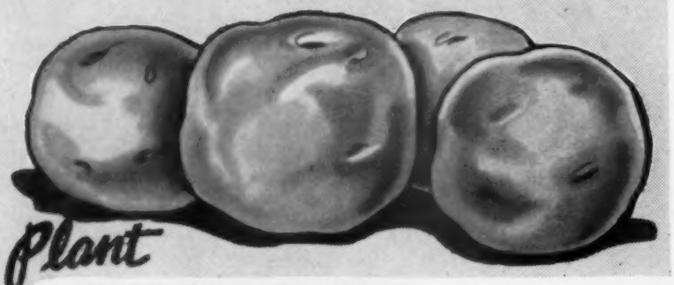

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Profit-Minded Farmers Grow Potatoes for Chip Processing

GREATER profits are possible for farmers who grow potatoes specifically for chip processing.

So maintains the National Potato Chip Institute. To back up its claim, the Institute has assembled a "Greater Profits for Farmers" kit.

Four important subjects pertaining to potato growing for chip processing are covered in the kit. The authoritative literature stresses such factors as the importance of varieties, specific gravity, cultural factors and storage on chip quality and color.

Potato chip processing is one of America's fastest growing industries. At the present time, it consumes more than one-sixth of the potatoes grown for eating purposes.

St. Johns County is Florida's largest potato producer. Approximately 3,000 acres are annually planted to this crop.

The Sebago (white) potato constitutes 95% of the crop grown in the Hastings area. Approximately 65% of this crop goes for potato chips.

Any farmer or farm group may obtain the "Greater Profits for Farmers" kit, free of charge, by writing the National Potato Chip Institute, 946 Hanna Building, Cleveland, Ohio.

Corn, Peanut Yields Have Risen Sharply for Decade

AVERAGE yields of corn and peanuts in Florida have shown tremendous increases in recent years.

Improved cultural practices and better varieties, particularly of corn, are the main reasons for the increases, according to J. R. Henderson, agronomist with the Florida Agricultural Extension Service.

Thirty years ago, the average yield of peanuts on 49,000 acres in the state was 575 pounds per acre. Ten years later, it had increased to 750 pounds per acre on an acreage of 75,000. In 1948, the 110,000 acres of peanuts averaged 775 pounds per acre; in 1956, the yield was up to 1,093 pounds per acre.

Largest increases in peanut yields came in the last 10 years. The average yield for the five-year period 1948-52 was 809 pounds; for 1953-57, 973 pounds per acre.

In corn, the increase in yield has been even more pronounced—particularly in the last 10 years.

Between 1928 and 1948, the state's average yield of corn ranged from 10 to 11 bushels per acre. By 1956, it had jumped to 21 bushels.

The five-year average corn yield for 1947-51 on 606,000 acres was 13.2 bushels. For the period 1952-56, it was 18.3 bushels on 596,000 acres.

Henderson says this increase was accomplished by: the use of leguminous cover crops, planting good seed of adapted hybrids, application of adequate amounts of fertilizer, and spacing in accordance with the fertility of the soil and its ability to supply moisture during the growing season.

NOTE: Remember, these are *average* yields. In 1957 there were numerous reports of corn yielding better than 100 bushels and some peanuts up to 2,500 pounds per acre.

When Hogging-Off Corn, Pigs Need Supplementary Protein

HOGGING-OFF corn will not give pigs all the nutrients they need for best growth, says Dr. G. E. Combs, Agricultural Experiment Station assistant animal husbandman.

Protein, explains Dr. Combs, is the key to good nutrition—and corn does not have the quantity nor the quality of protein needed for growing swine.

Supplementary protein must be supplied. This may be in the form of a protein-rich crop like peanuts or a protein supplement like tankage.

If forage is available, pigs will need 0.2 to 0.3 pounds of tankage —or an equivalent amount of other protein supplement—per head, daily.

Because corn is also low in salt and calcium, the hog farmer should supply a mineral supplement. To insure pigs against a mineral deficiency, give them salt and limestone free-choice.

Dr. Combs declares it is not wise to allow breeding stock to hog down corn. They will become too fat if this is done.

The farmer can cut down on corn wastage by using temporary fences to confine the pigs in an area that can be cleaned up in three or four weeks. This is even more important if the season is rainy, for then the heavy hogs will trample the grain.

Needed:

Better Group Dosing

PRESENT methods of group-dosing pigs with piperazines for worms may not be effective under field conditions, according to USDA research.

Fifty milligrams of piperazine per pound of body weight is the commonly accepted dosage. And this dosage is effective against ascarids (large roundworms) and nodular worms—when pigs are *individually* treated.

However studies at the USDA's Agricultural Research Center in Beltsville, Maryland, showed this dosage was not as satisfactory when three or four pigs were treated together. A dosage *larger* than 50 milligrams per pound of body weight may be necessary when the drug is given in limited amounts of feed and water to *groups* of pigs. (Researchers elsewhere obtained excellent results using 100 milligrams per pound of body weight.)

While piperazine compounds are not new, *their use in controlling livestock and human worm infection* is new, effective, and widely practiced. Piperazines are especially good for this application because they (1) get rid of nodular worms plus mature and immature ascarids, (2) are safe for animals, and (3) leave no residual deposits in edible tissues.

In view of the above facts, the biggest problem is assuring adequate dosage under field conditions. Piperazines are conveniently given to pigs in feed or drinking water—depending on the compound used (some aren't water soluble), the available facilities, and personal preference.

Drugs should be consumed fairly rapidly—within 24 hours—to get best results at lowest cost. To help achieve this, animals are deprived of feed and water for 12 to 18 hours before treatment. Measured doses of piperazine are then put in smaller amounts of feed and water than the animals normally consume in one day.

Animals thus treated in a group don't all respond to treatment in the same way. The more vigorous, and maybe less heavily parasitized, animals may obtain most of the medicated feed.

Palatability differences will also cause animals to eat and drink varying amounts of medicated feed and water. In addition, animals differ greatly in how much they drink from season to season; even from day to day.

Failure of treatments due to differences in palatability may necessitate the development of flavoring or masking agents. Or other salts with a better flavor might be found.

In limited tests, piperazine citrate seemed to be one of the most satisfactory compounds tested. Given in drinking water, it was palatable to all animals and was effective against both ascarids and nodular worms. There were great variations, however, in palatability of compounds and efficiency of treatments.

Speed of consumption is related to palatability and efficiency of treatments. The faster the animals consumed medicated feed or water, the more efficient was the treatment.

Piperazine sulfate, for example, removed 100% of the large roundworms in one trial when all the medicated water was consumed in seven hours. But efficiency was substantially lower when only 85% of the water was consumed in 24 hours.

USDA researchers still see a critical need for studies of several piperazine compounds on groups of 10 or more animals, to determine best dosages under practical farm conditions.

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4 GREATER PLANT SAFETY—Calumet *brown* Copper Oxide is less toxic than the more soluble forms of copper and offers a wider margin of safety.

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Soybean Facts and Figures

SOYBEANS can lose up to 40% of their pods and still produce a normal yield. Nature compensates for pod loss by increasing seed size and decreasing natural pod shedding.

Weather conditions—such as temperature extremes, high humidity, excessive rain or hail storms—take a heavy toll of pods. Growers concerned that pod loss means yield loss can take heart from experimental results that show otherwise.

USDA researchers found that removing even 10% of the pods increased seed size.

Removing 80% caused a 23% increase, although it cut the yield almost in half. Plants depodded this severely had dark green leaves, thick green stems, and plump pods.

However removal of *leaves* is a different story. Removing 80% after pods were set decreased seed size by 18%; yield, by 50%. A 40% defoliation cut yield about 20%.

Depodding causes larger and heavier seeds because the normal leaf area supplies food to a smaller-than-normal number of seeds—which thus get plenty. Conversely, defoliation causes smaller and lighter seeds because fewer leaves are left to nourish the large number of seeds.

* * *

Fumigation of Soil Ups Cotton Yields

Soil fumigation treatments applied with a subsoiler increased seed cotton yields as much as 300 pounds per acre, South Carolina research showed.

In the tests, the soil fumigant was applied in the row three weeks before planting. W. R. Paden, agronomist at the Sandhill Experiment Station, reports:

Yield of seed cotton where no treatment was applied was 501 pounds per acre. Where the soil fumigant was applied, the yield was 830 pounds—an increase of approximately 63%.

The cost of applying the treatment is estimated at about $15 an acre.

"We've increased our crop yield and quality by using ORTHO"

writes A. R. Chastain of Chastain Bros., vegetable growers, Canal Point, Florida, shown left, with ORTHO Fieldman Luke Dohner

"We have had good results for everything that we have ever used ORTHO products on. We have increased the yield and quality of our corn crops and peppers by using ORTHO products for blight and insect control," says Mr. Chastain. *"That is the reason I've stuck by ORTHO for 26 years."*

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When you buy the ORTHO program, all the personal, on-your-ground technical advice and services of your ORTHO Fieldman are provided gladly and without any extra charge. Too, with ORTHO, you're associated with the leader. An ORTHO program gives you benefit of *all* the technical background—all the laboratory and field research—and *all* the formulating skills that have made ORTHO the number one line of agricultural chemicals in America today.

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Timing of Insecticide Use Aids in Lygus Bug Control

MORE EFFECTIVE control of lygus bugs, a costly pest to lima-bean growers, is possible by proper timing of insecticide applications.

So report entomologists of the U. S. Department of Agriculture following five years of research on lygus-bug control. M. W. Stone and Francis B. Foley, Agricultural Research Service scientists stationed at Whittier, California, declare:

Correct timing of insecticidal applications increased yields of dry beans by 200 to 250 pounds per acre.

The average results showed that a single application of DDT, just after blossoming began (early), or about two weeks later when the pods appeared (intermediate), gave the most significant increases in yield. Each of these applications was superior to late application at the time the pods were one and one-half to two inches long.

Early and late applications combined gave yields no better than an early application alone.

All of the experimental treatments reduced the percentage of pitted beans caused by lygus bugs. The intermediate application and the combined early and late applications were the most effective in reducing this type of damage.

The intermediate application was also effective in reducing damage to pods and beans by corn earworms.

Research on lygus-bug control was undertaken to aid lima-bean growers. Because of the varying amount of damage done from year to year by these insects, growers frequently find it difficult to decide whether control measures are practical.

The bugs are known to reduce the number of pods, as well as to cause the beans to be malformed or pitted.

Southern Blight Control Described

An information folder on the use of Terraclor in controlling southern blight (or southern stem and root rot) of peanuts is now available to growers. Included are a dosage rate chart and suggested recommendations for a land plaster mix of the fungicide.

Manufactured by the Olin Mathieson Chemical Corporation, Terraclor is claimed to be the first chemical to impart economical control of southern blight. The disease problem has caused crop losses to climb as high as 50 to 60%.

Terraclor may be effectively applied either as a soil mix or at pegging time in a surface band treatment. One application gives control until harvest.

Free copies of the folder may be obtained through Olin Mathieson representatives or by writing: Olin Mathieson Chemical Corporation, Chemicals Division, Baltimore 3, Maryland.

* * *

Florida led the nation in production—785,838 tons—of phosphate fertilizers last year, the USDA reports.

Rust-Resistant Oats Are Found

ELEVEN STRAINS of cultivated oats that carry genetic resistance to one of the most virulent of five new races of crown rust have been discovered by USDA scientists.

Known to be resistant to Race 264 crown rust, the newly found strains may also prove resistant to other new races. This, oat specialists say, considerably brightens the outlook for developing commercially suitable resistant varieties over the next few years.

This recent discovery is the result of an emergency program undertaken cooperatively last winter in Puerto Rico by the Agricultural Research Service, the Federal Experiment Station at Mayaguez, and the Puerto Rico Agricultural Experiment Station at Isabela.

* * *

Speeches are a lot like the horns on a steer: a point here, a point there—and a lot of bull in between.

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Sixty-five years of intensive research by the Waldo Rohnert Company has resulted in seeds of virility for healthy, profitable crops. Recognized leaders in the vegetable seed field, the Waldo Rohnert Company has an enviable record of pioneering. The Waldo Rohnert Company, for example, introduced the leading Great Lakes Lettuce Variety, R-200.

Great Lakes R-200 has exceptional uniformity of size and shape with an extreme range of adaptability plus outstanding qualities for shipping and carrying.

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New Aids To Farm Living

CRAWLER-LOADER

Featured in this J. I. Case "Utility" 5/8 cu. yd. crawler-loader are extra-heavy truck construction, stress-protected power-train, and a high torque gasoline engine with exceptional lugging ability.

The machine develops 30 dbhp for digging, lifts 2,600-pound loads, and the bucket clears 8' 10" after dumping. This size crawler is also offered with 71" x 23" bulldozer or 88½" angledozer blade.

This is said to be the first and only line of low-cost, heavy-duty unit engineered, built, powered, equipped and warranted by one manufacturer thus providing undivided service responsibility.

SCRAPER

With his own tractor for power, the farmer can use this new Eversman hydraulic scraper for doing a great many earth-moving jobs on his farm fast and at low cost.

Possibly the most important feature of this machine is the front dump operation which permits the operator to accurately control the fill. In dumping, the dirt spreading range is from 3" to 12" thick—providing a fill that is smooth and well packed.

The bottom of the bucket is practically horizontal in the loading position so that the cutting bit shaves the ground. As a result, less power is required.

FORAGE-FEEDER

A load capacity of 420 cu. ft. is provided by this new Farmhand mixer-feeder for forage handling, feeding, and silo filling. It unloads a full load in one to three minutes with standard sprockets.

The "420" feeder has a built-in mixing chamber with three 18" diam. 4-bar beaters and a 24" belt-type cross conveyor. It mounts on truck or wagon for left-front discharge.

Depending on running gear, optional elevator increases discharge height from approximately 36" to 48". One-piece 60" sides are 16 ga. steel with welded side stakes and channel steel toprail.

MILK COOLER

The above cutaway illustrates the new Zero bulk milk cooler with built-in Splatter-Spray Automatic Washer in action. Just a simple turn of the dial starts the automatic cycle for self-washing, rinsing and sanitizing the tank.

Moving at high speed, the Splatter-Spray hurls a "tornado" of water against the tank's stainless steel sides. As the tank is round-shaped, there are no hard-to-clean crevices or corners—which makes the Zero tank particularly suitable for automatic self-cleansing.

TRAILING PLOW

Especially designed for work in heavy trash are International Harvester's New McCormick No. 60 and 70 series trailing plows. They have welded box section frames and fabricated plate steel beam mountings for maximum length without excessive weight.

Other outstanding features include truel trailing tail wheel, choice of spring-trip or rigid beams, and packed and sealed bearings that require lubrication only once a year. The gear-type lift, sealed in an oil bath, lifts the plow and lowers it without dropping.

No. 70 is equipped with either gear-type or hydraulic lift; the No. 60, with hydraulic lift. Regardless of plowing depth, both are raised at a constant eight-inch height for transport.

WATER SYSTEM

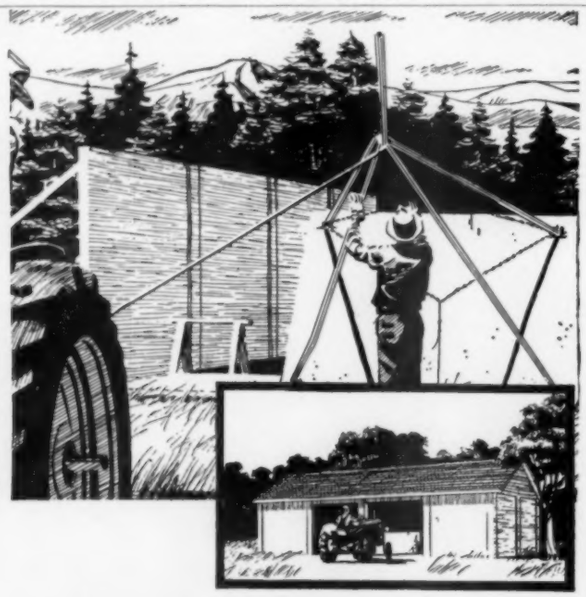
Recently introduced is the new "Topper" line of tank-mounted water systems by F. E. Myers & Bro. Designed for easy installation, all necessary fittings for plastic pipe installation are included.

The line is available in three shallow well and two deep well models with capacities to 800 gallons an hour. The units come complete with pump, tank, air control, pressure gauge, pressure switch, and regulator and proper ejector assemblies.

* * *

CONSERVATION DISTRICTS

About 84% of Florida's total land area is covered by the 59 organized soil conservation districts in the state. Technical assistance in soil conservation practices has been received by about one-third of the farms in Florida.



NEW METHODS MAKE IT POSSIBLE...

Low-cost shelter buildings with walls of solid concrete

Reinforced concrete walls are cast on the ground, erected with farm tractor and new tilting frame developed at Texas A. & M.

Farm engineers have borrowed a method from industrial builders . . . streamlined it . . . cut costs to make it practical for simple farm structures. The method is "tilt-up" . . . but builders no longer need heavy-construction lifting rigs to raise the concrete panels.

The tilting frame illustrated was developed by the Texas Agricultural Experiment Station. Now, a small crew can place 8 x 8 or 10 x 10 concrete panels in a matter of minutes. The only power needed is that of a standard farm tractor.

Long-life concrete is weather-resistant, rodent-proof and noncombustible. Solid concrete walls can take the punishment required in farm structures like loafing and feeding barns and machine sheds. And because they need little or no maintenance during their long life, concrete buildings save you time and money. For details, see your ready-mix dealer, rural builder, or farm structures specialist at your state college. Or fill in the coupon below.

PORTLAND CEMENT ASSOCIATION A national organization to improve and extend the uses of concrete
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Hog Raisers Can Do Much To Avoid, Suppress Disease

FOLLOWING the adage that "an ounce of prevention is worth a pound of cure" can be worth its weight in gold to the Florida hog raiser.

So says Dr. H. D. Wallace, animal husbandman with the Florida Agricultural Experiment Station. He explains:

"We can get disease by anyone of three routes: (1) buy it in diseased stock, (2) obtain it by contact with neighboring stock or the neighbors themselves, and (3) breed disease through mismanagement of our own farm and premises."

Purchase of disease-free stock is not an easy proposition. In selecting a new herd boar each year, extra caution should be practiced. The expert suggests:

Deal only with reputable purebred dealers. Have a look at the entire herd, and insist on a clean bill of health from the local veterinarian before buying the animal. Keep the new animal isolated from your own stock for at least 30 days.

Good fencing is the best answer to the problem of contact with neighboring animals. And even though the neighbor be a good hog man, never allow your hogs to run in a field next to your neighbor's hogs.

Prevention of disease developing on your own premises is best done by good feeding and sanitation:

No one thing will be more helpful than good feeding, since a well-fed pig will be able to withstand and ward off disease better. Repeated use of the same feeding area for pigs year after year can be a major source of disease among swine.

Sanitation, be it field sanitation or sanitation on concrete, is a "must." Pastures, as well as the central feeding areas, should be changed every year.

In addition, Dr. Wallace recommends hog cholera vaccination and that all pigs be given erysipelas bacterin. He recommends the new attenuated virus treatment along with serum injection for cholera as it eliminates the use of live virus.

The erysipelas bacterin can be given at the time of cholera vaccination.

* * *

Calves Fed Skim Milk Need Vitamins

WHEN CALVES are fed fresh or dried skim milk, they need some extra vitamin A in their diets.

Recent research at the University of Minnesota proved this point. For example:

In one 84-day experiment, calves fed skim milk powder without vitamin supplement gained .94 pound daily. However calves fed the same powder with codliver oil added to supply extra vitamin A gained 1.25 pounds daily.

During another 84-day experiment, calves on fresh skim milk gained 1.09 pounds daily; those on skim milk powder averaged 1.06 pounds per day. Both groups of calves in this experiment were given extra vitamin A.

These latter gains were somewhat lower than in the first trial. However, say the Minnesota researchers, the results are still entirely satisfactory and are better than could be expected for calves not getting the vitamin supplement.

* * *

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Under intensive field testing for the past four years as "Bayer 21/199," CO-RAL has demonstrated exceptional ability to control screw-worms, cattle grubs, hornflies, lice and ticks.

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1 CO-RAL is applied as a spray. It is a fast and easy method of screw-worm treatment, requiring minimum handling and labor.

2 CO-RAL protects sprayed animals from infestation for 10 to 20 days—long enough for most injuries to heal completely.

3 When used for screw-worm control, CO-RAL also automatically provides effective and extended control of cattle grubs, hornflies, lice and ticks.

4 CO-RAL kills cattle grubs inside the animal—but before they are able to damage meat or hide.

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JUST as "the early bird catches the worm," early fly control is the most valuable.

Milk production of dairy cows may be reduced as much as 25% by biting flies. And gains on beef cattle may be slowed down one pound per day per animal by fly attacks.

Flies breed in refuse heaps and manure piles. Strict sanitation is the most effective method of holding down the fly population to a minimum. Good drainage from yards and pens help reduce the crop of flies also.

Dairy stables are cleaned daily and the manure spread upon fields. This, naturally, tends to keep down the fly population.

However calf and bull pens, maternity stalls, loafing barns, alley ways, and hog houses may be cleaned less frequently. So the manure and litter in such spots provide a fly breeding ground.

Even with the best sanitation, additional methods of fly control are necessary. Experiment Station tests have demonstrated the advisability of spraying barns with a long-lasting residual phosphate fly spray.

Residual Sprays

Such sprays, applied to barn walls and ceilings, are effective against house flies, stable flies and horn flies when animals enter the barns or sheds once or twice daily. It is recommended that gates, gate posts and exterior walls be sprayed because flies congregate there when the herd enters the barn. The flies are killed when they rest on the sprayed surfaces.

Two sprayings with recently developed phosphate residual sprays, such as Diazinon, will usually control flies in dairy barns for an entire season—an economic feature when the cost of the actual spraying operation is considered.

Before spraying, all animals should be removed from the barn. Mangers and drinking fountains should be covered; all grain, hay, silage, salt, and mineral mixtures either removed or covered.

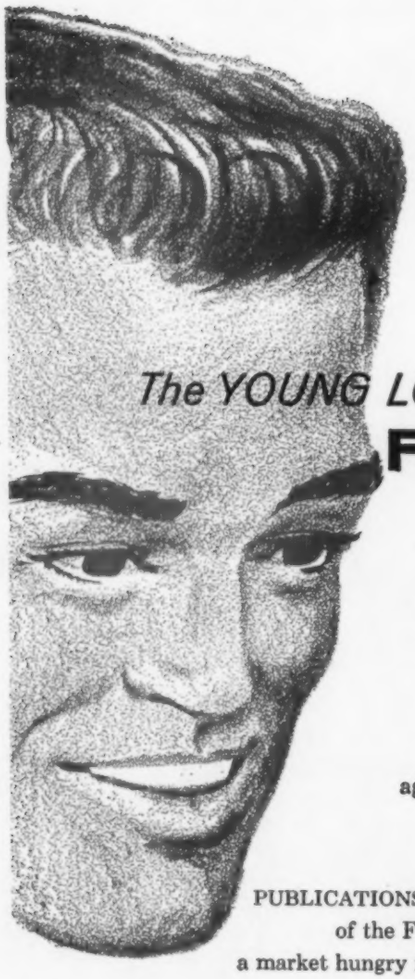
Residual sprays should *NOT* be applied directly to animals. Furthermore, animals should be kept out of the stable for four hours following the spraying.

Dusts

Methoxychlor *dust* may be used on dairy cattle to control horn flies. While a methoxychlor *spray* cannot be used on dairy cattle, it may be used on beef cattle and hogs at two to three week intervals, or as necessary.

Backrubbers are an efficient method of fly control on beef cattle. The rubbers should be placed where cattle normally rest, either in pastures or feedlots.

A 5% methoxychlor-oil solution is recommended for use on backrubbers; the burlap will need retreating about every three or four weeks. Fuel oil is satisfactory as a carrier for methoxychlor, but motor oil should never be used for this purpose.



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